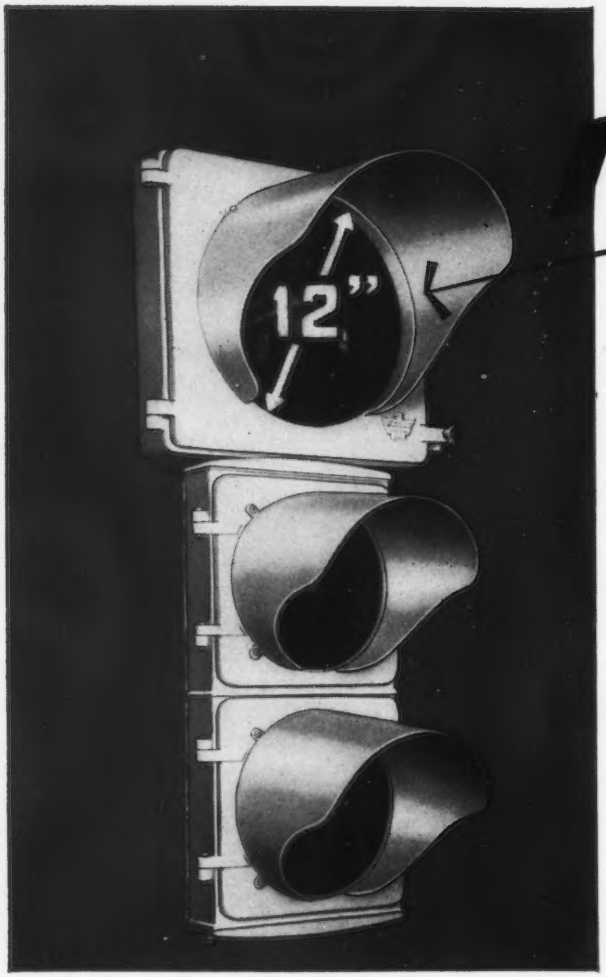
JUNE, 1956

# Traffic Engineering

*Traffic on Hollywood Freeway in Los Angeles*

- Traffic Engineering in New Haven, Connecticut
- Freeway Development in the Los Angeles Area
- The Sluggishness or Queueing Factor

Official Publication of the Institute of Traffic Engineers

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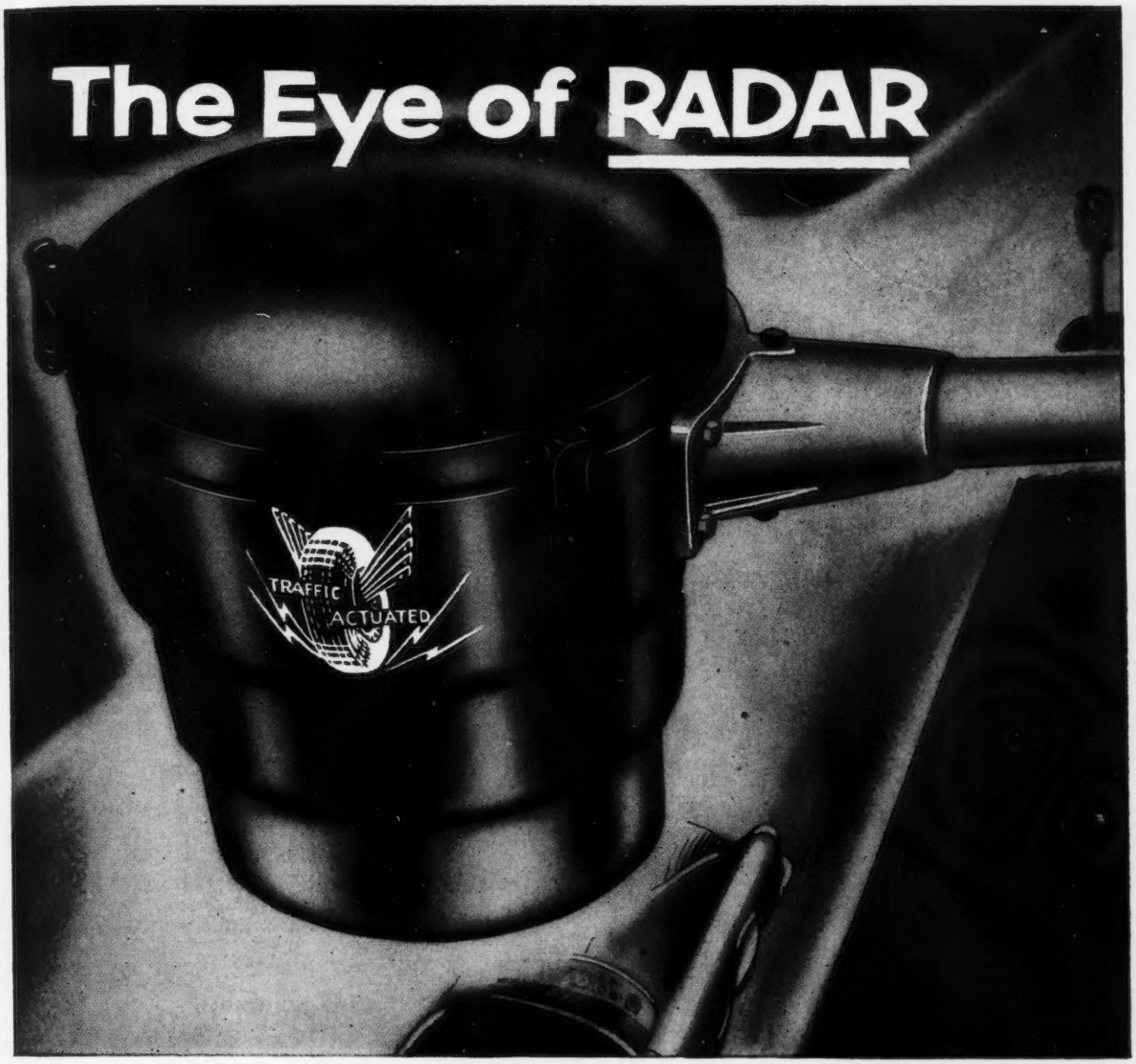


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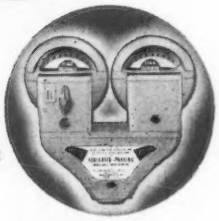

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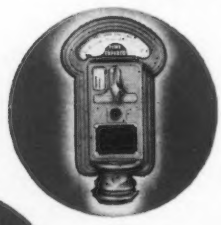

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# Traffic Engineering

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Vol. 27 JUNE, 1956 Number 9



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**COVER: Looking east along Hollywood Freeway, showing late afternoon traffic near four-level structure. This is a typical condition that produces an average daily traffic count of 180,000 vehicles. The development of freeways in the Los Angeles Area is discussed this month in an article by Mr. Paul O. Harding.**

**DEFINITION:** Traffic Engineering is that phase of engineering which deals with the planning and geometric design of streets, highways, and abutting lands, and with traffic operation thereon, as their use is related to the safe, convenient, and economic transportation of persons and goods.


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# Frankly Speaking

THE NATIONAL HEADQUARTERS of the Institute of Traffic Engineers has now been established in its new permanent offices in Washington, D.C. The accompishment of this long sought for goal is an indication that as a professional organization we have reached maturity and are able to stand on our own.

As a professional group, we are growing in importance and stature. Our membership is at the 1,000 mark. Our magazine, TRAFFIC ENGINEERING, is an effective medium for exchange of ideas and practical experience. The direction and administration of the Institute's policies and program through the Board of Direction is progressing, commensurate with the growth in the membership and activities.

All this may sound as if the Institute of Traffic Engineers is doing so well that it can coast on its laurels. However, before we become too complacent, we should stop and take stock of our progress and consider the future.

Individually as traffic engineers and collectively as the Institute of Traffic Engineers, improvement has been achieved in several areas of traffic control and operations. Appropriate recognition is acknowledged by the Institute's acceptance and participation with many national groups. Despite the past achievements, we should look ahead to more difficult and challenging problems. Increasing traffic volumes and the attendant problems that may be anticipated in the next decade will offer a real challenge to our professional development.

We should be constantly striving to advance our profession through the exchange of information and knowledge among ourselves, stimulating research and development and encouraging qualified engineers to become members of the Institute.

There is no better way of accomplishing an exchange of information and knowledge than through the preparation and publication of informative articles in TRAFFIC ENGINEERING. Aside from the opportunity to gain professional recognition by such participation and exchange of ideas, it offers an opportunity for the traffic engineer to dispel the idea that he is unable to sit down and put on paper some of the lessons he has learned in his daily work. This reluctance to furnish technical articles for the magazine is all too often a matter of laziness rather than modesty.

As we consider the future and the tremendous problems that will be facing the traffic engineers with the full development of the long range National Highway Program, it is obvious that more and more engineers will be engaged in traffic engineering functions and responsibilities in all levels of government. Those so engaged and qualified should be encouraged to affiliate with the Institute of Traffic Engineers. With an increase membership of qualified traffic engineers, the Institute will grow in stature. Each of us as a member of the Institute should endeavor to obtain at least one more qualified member.

The advancement and development of the traffic engineering profession and the growth of the Institute of Traffic Engineers depends on the membership. Your enthusiastic support and cooperation with the Executive Secretary will assure that the Institute will be a real force in our nation.

Edward G. Wetzel

**Director District I**

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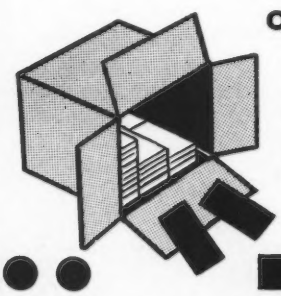

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# Traffic Engineering in New Haven, Connecticut

by William R. McGrath (Jr. Mem., ITE)
Director of Traffic and Parking, New Haven, Connecticut

THE CITY OF NEW HAVEN, population 165,000, is the communication and transportation hub of New England. It is the junction point of two of the most important eastern seaboard routes, U. S. 1 and Route 5. It is also the home of the major railroad of New England, the New York, New Haven & Hartford. It is the point at which that railroad splits to its eastern route and its northern route with all the attendant offices, terminals and yards. It is the home of the Southern New England Telephone Company which serves the greater part of New England. It is the home of Yale University.

All this activity, plus the numerous manufacturing, commercial and business activities to be found in a city of its size, are crowded into a town only 3½ miles in radius. On all sides but the south, which is water, it is abutted by suburbs which are cities themselves, making it the center of a metropolitan area of over 250,000 people.

New Haven is a radial-type city with all major arteries converging on a central area which contains the original nine squares of New Haven; an area 3,000 feet on the side and the heart of the city. In this central area there is no street over 44 feet in width throughout the length of the area. This is the setting for traffic problems of interesting proportions.

New Haven has a population of traffic engineers which far exceeds most cities in the country. Here is located the Bureau of Highway Traffic at Yale, the headquarters of the Institute of Traffic Engineers and the home office of a large traffic engineering consulting firm; yet it is only recently that traffic engineering services have been made available to the municipal government on an organized basis.

A Traffic Engineer had been retained by the city for a two-year period beginning 1948, but his imaginative and sound plans for the improvement of traffic were largely

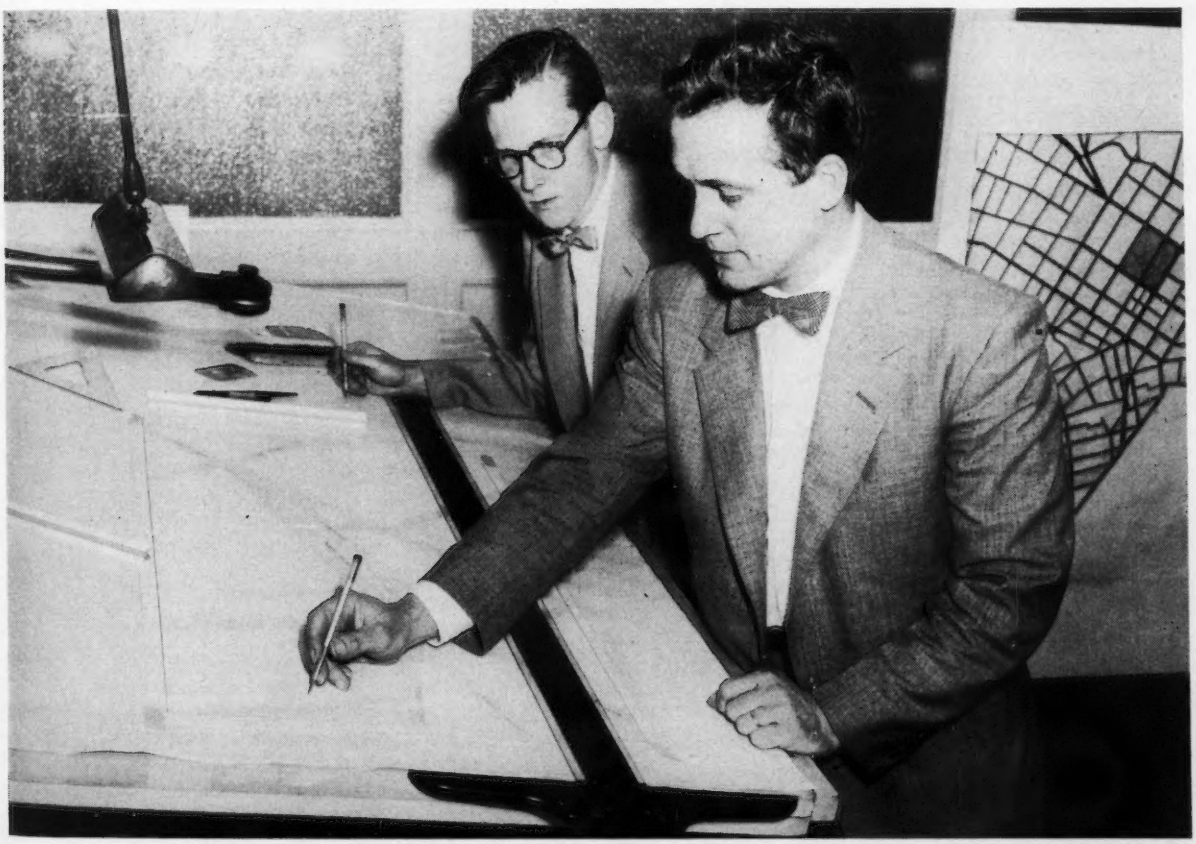

**Figure 1**
**New Haven's Traffic Engineer Bill McGrath on right, and Traffic Analyst David Wooster planning a channelization project.**

negated after an inordinately short trial period by organized resistance on the part of commercial interests that did not fully understand the purposes of the improvements being undertaken. This first Traffic Engineer shared offices with the Traffic Division of the Police Department. He suffered a dearth of technical and clerical assistance and it was evident he was not properly located to bring his problems and needs forcefully to the attention of the city administration.

The solution to traffic and parking problems became a major political issue as time passed. The newly elected Mayor, Richard C. Lee, in 1953 had made this a major point of his platform. Immediately following entry to office he allocated funds and retained a traffic engineering consultant to conduct a survey and prepare a comprehensive report on the needs of New Haven. This report was received in October 1954 and its recommendations were adopted in their entirety by vote of the Traffic Authority of the city. This report contained comprehensive analyses of specific improvements to be carried out plus clear indication of sound policies to be followed in the determination of further improvements. A major section of the report indicated the need for and recommended the creation of a separate department of traffic and parking, to be headed by a fulltime professional Traffic Engineer, with adequate staff to carry on its functions. (See Figure 1.) By October 20, 1954 New Haven's Traffic Engineer had been retained; the staff partly organized and part-time work for the city begun. As of January 11, 1955 the department was officially established with an initial budget of $25,000.

The first task assigned to the new Traffic Engineer was to determine the proper allocation of the budgeted funds. Of the $25,000 provided, only his own salary, set at $8,000, had been established. Table I shows the distribution of these funds for the first year of operation.

TABLE I

BUDGET ALLOCATIONS — 1955

| | 1955 | Requested 1956 |
|---|---|---|
| Personnel | | |
| Traffic Engineer | $ 8,000 | $ 8,372 |
| Traffic Analyst | 4,000 | 4,433 |
| Parking Analyst | 1,460* | 4,069 |
| Secretary | 3,350 | 3,523 |
| Parking Draftsman | | 3,432 |
| Part-time Draftsman | 2,400 | 2,400 |
| Part-time Traffic Checkers | 800 | 3,200 |
| | $18,550 | $29,429 |
| Non-Personnel | | |
| Utilities | 100 | 100 |
| Travel | 600 | 800 |
| Equipment | 4,100 | 3,675 |
| Materials & Supplies | 1,500 | 2,375 |
| Subscriptions, Dues, etc. | 150 | 150 |
| | 6,450 | 7,100 |
| TOTAL | $25,000 | $36,529 |

*Added later in 1955 when critical need became apparent.

Also shown in the same table are the sums requested by the Traffic Engineer for his 1956 budget. The differences are based on his experience with the inadequacies of his first budget. Except for his own raise, all requests were granted. In the personnel items, aside from the addition of another fulltime analyst, the most serious deficiency the first year was in the number of manhours of traffic counting work available. With only $800 to spend on this item the first year the department was seriously handicapped in undertaking the numerous studies which it found necessary. Of the non-personnel items, the larger part in the first year had to be allocated to equipment as a complete office had to be set up. The usual desks, chairs, files and cabinets took the greater part of this. The most important items procured from a traffic engineer's viewpoint were an automatic recording counter, a Rolatape for quick street measurements, a portable dictating machine to be used both in the office and in the car, good drafting equipment and a combination adding machine-calculator. The requested budget for the second year provided sufficient equipment money to secure a city car for the department. It is evident from the makeup of these budgets that the role of the Traffic Engineer in New Haven, as presently constituted, is strictly a staff function. The operational duties are carried out by the Signal, Meter and Maintenance Divisions of the Department of Police Service. An amount of $90,000 was provided in those divisions for that work in 1955. Capital improvements were carried out under the supervision of the City Engineer with the Traffic Engineer again supplying staff assistance in matters of design and channelization.

The municipal government of New Haven operates under a board or commission type of government with operating departments responsible to the executive branch of the government (the Mayor) and in policy matters to a board or commission composed of unsalaried public citizens and the Mayor as representative of the elected government. The Department of Traffic and Parking was to work with two such boards during its first year; the Board of Police Commissioners, which is the Traffic Authority of the city as established by Connecticut General Statutes; and the New Haven Parking Authority, which is a quasi-municipal organization devoted to the establishment of offstreet parking. Within its own province each of these boards has complete authority. The Police Commissioners may vote any traffic or parking regulation which meets standards established by general state statutes. Upon that vote such regulation becomes law. The Parking Authority may create offstreet parking spaces where it deems fit and finance by any legal means. (Its plans, however, must be approved by the legislative branch of the city, the Board of Aldermen, prior to action.) Each of these boards meets regularly and sits in decision on recommendations presented to them by the Traffic Engineer.

In addition to the policy setting boards, the City has a Development Administrator acting directly on behalf of the Mayor's office. This Administrator directs the programming and planning of the departments concerned with redevelopment, city planning, and traffic and parking. Through him there is provided the co-ordination of the activities of these various departments to assure that their efforts are directed to compatible goals and timed to bring fruition in proper sequence.

With this organization in mind the Traffic and Parking Department was given a structure of three basic divisions—planning, traffic, and parking. To each of these divisions the Traffic Engineer devoted approximately one quarter of his time; the remaining quarter being left for the administrative details of the department itself. Each of these divisions of work is properly the subject of separate discussion.

**Figure 2**
**A channelization of a "Y" intersection where the major flow was formerly bent around a rotary of ten foot diameter.**

## TRAFFIC

The role of Traffic Engineer with regard to traffic during this initial year was that of staff advisor to the Board of Police Commissioners. Written recommendations were prepared on the basis of field data gathered by his department and presented at monthly meetings of the board which approved or disapproved. Work orders resulting from the board meetings were transmitted directly to the operational divisions of the Police Department by the secretary to the board. No system of reporting to the Traffic Engineer on the status of installations was devised. For major installations conferences were held between the supervisors and the Traffic Engineer but in general the various divisions worked at their own pace. During the first year of operation this arrangement was the greatest problem in accomplishing planned work. By the end of the year steps were underway to provide direct co-ordination and supervision by the Traffic Engineer.

### Traffic Activities

1. Public Petitions

It was considered imperative that every citizen feel that the Traffic Engineer's office was open to him, where he could be heard and have his suggestions or criticisms recorded and investigated. Accordingly all phone calls, letters, or personal interviews concerning traffic problems were catalogued and set up for study. Two hundred and ninety-seven of these were completely investigated, including field observations, volume counts, curb parking studies, or whatever other detail appeared necessary. These 297 completed petitions were presented to the Board for action of some sort. From a year's perspective it is evident that this type of activity can become a serious strain on the efforts of the Traffic Engineer and his staff. By the year's end standard procedures had been established to minimize the amount of attention necessary to any such petition without detracting from the accuracy of the investigations.

2. Extension of One-Way Street System

Based on the recommendations which had been provided in the survey reports of 1954, six miles of major one-way street system was added to the city's existing 20 miles of one-way streets during the year. At this time 11% of the street system of New Haven is operated in one-way pairs. Considerable effort has been expended to obtain adequate public notice and acceptance as they were instituted. Before and after studies were conducted which demonstrated their effectiveness. In one instance in the early stages of the program a group of citizens instituted court action against the one-way streets but the action was concluded favorably for the city and no further difficulty was encountered.

3. Peak Hour Restrictions

A major undertaking during the summer of 1955 was the extension throughout the greater part of the central district of peak hour parking restrictions. The terminology "No Standing" was adopted at this time to distinguish from ordinary "No Parking" areas. The system of towing violators from the "No Standing" areas was also instituted. To gain public understanding and use of the curb lanes provided them, extensive educational programs were carried out. The aid of boy scouts was enlisted to carry out a full week courtesy period prior to enforcement of the system. During that period all vehicles parked in the "No Standing" areas received sample tags which described the system to them and explained the reason for its institution. The success of that program was evidenced by the fact that the number of tags issued dropped from 1,500 on the first day to 300 on the last day. Perhaps the most successful aspect of this educational program was the painting of parking meter posts bright red on those streets where the regulations were put into effect. This outstanding color served to call attention to the regulation. To provide maximum efficiency in the use of these regulations, lane lining was planned for all the streets with the new "No Standing" regulation. This work was

considered an essential part of the program to gain acceptance. An interesting aspect of curb parking removal evident in this effort was that even though drivers were slow to learn to use the additional lanes provided along the curb, the absence of parked cars, with decreased marginal friction, increased the capacity of the inside lanes to the extent that congestion was considerably alleviated almost immediately.

4. Spot Improvements

During the year five major rechannelizations were installed. In each instance the installations were marked out only with paint, to be tried the first year prior to construction of permanent islands. A simple channelization of "Y" intersection where the major flow was formerly bent around a rotary of ten foot diameter is shown in Figure 2. It was found during the year that projects such as these which seriously need attention but which pertain almost exclusively to traffic movement in intersectional areas of unusual configuration are seldom brought to the Traffic Engineer's attention from outside sources. For this reason there appeared to be a tendency to let work of this nature slide in deference to that being more urgently demanded. A program of investigating the flow through all unusually shaped intersections has been instituted.

5. Through Truck Routes

Numerous citizens requested from time to time that heavy inter-city trucks be barred from their particular residential streets. The Traffic Authority of the City of New Haven secured special legislation from the General Assembly of the State to establish routes for through truck movement. The department carried through a study of necessary truck routes and prepared a recommended truck route system which, following a public hearing, was adopted in a somewhat modified form. It was found in the course of the study that the number of truck movements involved was only some 3,000 per day. New Haven is a natural terminus for many trucks and thus those actually passing completely through the city are an extremely low percentage of the total. Nevertheless, there was extensive public reaction against the proposed truck routes. Considerable effort was expended to inform the public that truck traffic to be assigned to these routes was less than 10% of all trucks. It appears that the term "Thru Truck Route" is not good terminology for routing of this nature. The general public seems to feel this means all trucks will pass through on that route and thus they anticipate far greater usage for the designated streets than actually develop.

6. Research and Establishment of Warrants

In the course of the year's work it was evident that no time could be allocated for major research projects. However, it was felt that wherever possible, research effort should be expended in the course of studies for solutions to particular problems. Specific studies concerning the installation of the "Yield Right of Way" sign were undertaken. The year 1955 was the first year this sign had legal significance in the State of Connecticut. Accordingly, theoretical studies concerning sight distances and travel speeds were carried out and applied at six intersections which met tentatively established warrants but which had not formerly been controlled in any fashion. After a test period of two months with observation of behavior and the absence of any accidents attributable to the control, a second step was undertaken for the study of 28 intersections with stop sign installations to be replaced with "Yield Right of Way." At the end of the year that program had not been completed but it was planned that the stop signs would be replaced and a six-month study period carried out.

A second field of investigation was that of proper use of isolated signal installations. Numerous public petitions for signals had stated that the desire for the signal was a desire to control speed on the street in question. Studies were instituted on existing isolated signals to determine effects of approach speeds. Data on these studies is inconclusive, although it appears that an ordinary fixed time isolated signal may increase approach speeds for as many vehicles as it decreases.

In conjunction with the one-way system it was discovered toward the end of the year that high accident rates had begun to occur at certain intersections of stop controlled two-way minor streets with new one-way major streets. In these instances neither sight restrictions nor other usual factors could be found to explain the increase of accidents. The single common aspect was that the accidents occurred to drivers approaching on the minor street with the one-way traffic flow from their right. It was observed that in spite of the fact that traffic came only from the right, most drivers looked first to the left and often began crossing the near lane before looking right. This, of course, would be a natural habit pattern developed when crossing two-way streets. A special "Look Right" sign is being tested through placement at various points near the intersection to determine whether this habit is the basic cause and whether it can be corrected.

7. Traffic Regulation Inventory

A major deficiency in the work tools at hand during the first year was the absence of a complete inventory of all the various traffic signs, controls, regulations and markings throughout the city. While it was possible to quickly devise a one-way map, a stop sign map, and a signal map, there are many other controls too numerous to be mapped easily. Because of the magnitude of the complete mapping job no action was taken on this program in 1955. A plan was devised for utilization of volunteer assistance in the gathering of such data in the subsequent year.

## PARKING

Prior to the creation of the Department of Traffic and Parking the Parking Authority had no regularly available staff service. With the aid of programming established by parking consultants the Authority had been able to establish five offstreet areas with approximately 500 spaces between the time of its creation in September 1952 and the beginning of 1955.

By directive of the Mayor the Traffic Engineer placed himself and his staff at the disposal of the Parking Authority immediately after creation of the office. Previous efforts at creating major facilities had suffered lack of technical aid and from certain defects in the basic enabling act which created the Authority, the administration moved immediately to secure amended legislation. It was obtained early in 1955. The most important changes were the granting to the city the right to pledge curb meter revenue as backing for the revenue bonds of the Authority. At the same time the Traffic Engineer was officially established as a non-voting member of the Parking Authority. Shortly thereafter the Authority appointed the Traffic Engineer as its Executive Director. By this means the Department of Traffic and Parking became the first department in the State of Connecticut to combine both traffic and offstreet parking functions.

**Figure 3**
**New Haven's new 300-car Pigeon Hole Garage located in the downtown area on State Street. This Garage was placed in operation on December 12, 1955, and is the first municipally owned garage of this particular type.**

Based on previous parking demand studies, analyses were undertaken immediately and by April 29, 1955 the Authority had voted to create a 468-space facility which would include a 300-car mechanical garage of the Pigeon Hole type. This Pigeon Hole garage was to be the first municipally owned garage of this particular type (See Figure 3). Within six weeks the Authority had obtained permission of the legislative branch to issue revenue bonds in the amount of $1,200,000 to finance the new facility and to combine all outstanding obligations. This bond issue was sold at public bid at 3¼% interest rate. A primary feature of the bond indenture was the pledging of all curb meter revenue, which amounted to $183,900 in 1954 in the backing of the revenue bonds. A device employed was to allow the trustee to receive and to hold said revenues and to utilize them when and if offstreet facility revenues did not meet all capital and operating costs. The remainder of the curb meter revenue was to be returned to the general fund of the city; and any revenues so used were to be repaid at whatever later date it became possible.

By September 1, 1955 one surface parking section of the facility was opened and put into operation and by December 12th the entire facility was in operation.

The most outstanding feature of this project was the rapidity with which it was completed and the example of fine cooperation that can be expended by various city agencies in a common effort when leadership is provided. The Corporation Counsel of the City acted as attorney for the Authority in the legal matters involved. The City Engineer acted as Project Engineer in the construction. The Controller, the Purchasing Agent, the Building Inspector contributed their particular technical assistance as required. Each of the Parking Authority members, who happened to be three businessmen, an architect and an insurance man, contributed of their specialized knowledge. Throughout this, after site selection, it was the role of the Traffic Engineer to co-ordinate these various specialties to determine when their assistance was needed and obtain it. The spirit of cooperation among the departments is, of course, maintained by the Mayor and his assistants.

*(Continued on page 399)*

*Reprint from California Highways and Public Works, January-February, 1956.*

# Freeway Development in the Los Angeles Area

**by Paul O. Harding**

**Formerly Assistant State Highway Engineer**
**California Department of Public Works**

CONSIDERATION of what has happened freeway-wise in the Los Angeles Area on the basis of the past five-year period is suggested because of the report just released by the California Taxpayers Association regarding population growth in this State. The figures made public by this association indicate that California's population has increased since the 1950 census, 27.2 percent—almost 3,000,000 persons additional—so that the population of California is now approximately 13,465,000. In Los Angeles County their records show a 31.8 percent increase since 1950 with the estimated population now 5,473,000. The California Taxpayers Association states that the greatest increase during the past five years in any one county has occurred in Orange county where the gain in population is 101.1 percent, with the estimated total now being 434,800.

### Increase In Population

This tremendous increase in population within the area of District VII, which comprises the three counties of Los Angeles, Orange and Ventura, has brought to pass a corresponding increase in vehicular traffic on our highways. Mr. G. T. McCoy, State Highway Engineer, has just made public release of the 1955 state-wide traffic count figures. As Mr. McCoy says, on a state-wide basis the traffic voumes during the year 1955 have increased 8.79 percent. The rate of increase in traffic on the freeways in this district has considerably exceeded this figure. The increase in average daily traffic on the freeways of this area, comparing the traffic today with traffic one year ago, and also five years ago is shown by the following:

| | 1955 | 1954 | 1950 |
|---|---|---|---|
| Hollywood (4-level westerly) | 180,000 | 168,000 | 64,000 |
| Pasadena (Elysian Park) | 112,000 | 110,000 | 56,000 |
| Santa Ana (Soto Street) | 113,000 | 90,000 | 25,000 |
| San Bernardino (Soto Street) | 88,000 | 80,000 | 25,000 |
| Harbor (4-level southerly) | 160,000 | 125,000 | |
| Colorado (at Linda Vista) | 27,000 | 30,000 | |
| Long Beach (Pacific Coast Highway) | 31,000 | 10,000 | |
| Using 4-level interchange | 250,000 | 200,000 | |

The above traffic count tabulation is impressive when it is recalled that five years ago there were only disconnected portions of the four major freeways in the Los Angeles area that were then open to public traffic. Five years ago only the top level of the four-level traffic interchange structure had been put into use in connection with the opening of three miles of the Hollywood Freeway between Grand Avenue and Silver Lake Boulevard. The other three levels of this structure were inoperative because construction on the Harbor Freeway to the south had just been started and there was still a one-half mile section of the Pasadena Freeway that had to be built to provide connection with the Hollywood Freeway.

By considering the five-year period as a whole, it is evident that great strides have been made, and we can now begin to see the cumulative benefits which are resulting to the traveling public by reason of the wise provisions of the Collier-Burns Highway Act of 1947 and the subsequent legislative enactments that have increased the financing available for freeway construction. For a clear understanding and a full appreciation of the Collier-Burns Highway Act and what it has done for the State of California, it is necessary to briefly review state highway financing back to the start of state highway construction in this state.

### Highway Financing

State highway construction was first started in California in 1912 from a bond issue of $18,000,000 passed by the people in 1910. A second bond issue of $15,000,000 was voted by the people at an election in 1916. Again in 1919 a $40,000,000 bond issue was voted. Then the 1923 Legislature passed an enactment creating a 2-cents-per-gallon gasoline tax. This was the start of the pay-as-you-go financing. In 1928 this tax was increased to 3 cents per gallon, with 1 cent going to counties and 2 cents reserved for maintenance and improvement of the state highway system.

In recognition of city problems, by legislative authority, Statutes of 1931, a policy of cooperation in construction was inaugurated for those portions of the highway routings within the cities, and in 1932 several miles within cities were

*This article originally appeared in the January-February 1956 issue of California Highways and Public Works. Mr. Paul Harding is now project engineer for Porter, Urquhart, McCreary, and O'Brien Consulting Engineers and is located in Tegucigalpa, Honduras. Mr. E. T. Telford has now taken over the duties previously held by Mr. Harding.*
*Mr. A. D. Griffin, Assistant District Engineer, provided certain additions for the purpose of publication in* TRAFFIC ENGINEERING *magazine.*

**Figure 1**
**Freeways completed, under construction, or planned for in Greater Los Angeles Area.**

improved by state and local cooperation. In further recognition of this problem Chapter 767, Statutes of 1933, provided that the Department of Public Works would annually expend from the state highway fund an amount to equal to the net proceeds of one-fourth of 1 cent per gallon tax of motor vehicle fuel upon state highway routes within incorporated municipalities. Still further recognition of this problem was given by the Legislature in 1935 which provided an additional one-fourth cent of the gasoline tax for maintenance, rights of way, construction or improvement on streets of major importance within the cities, off the state highway system.

## Gas Tax Increase

Both the 1933 one-fourth cent and 1935 one-fourth cent were taken from the state highway 2 cents of gas tax, thus reducing the expenditures upon the state rural system to 1½ cents. Coincident with the legislation reallocating these gas tax funds, the Legislature in 1933 and 1935 added some 6,800 miles of rural county roads to the state system, which, with the extended routes through the cities, resulted in a total state highway system of approximately 14,000 miles.

The Collier-Burns Highway Act of 1947 increased the gas tax to 4½ cents per gallon and supplemented this by other motor vehicle fees, which, however, were more than offset by a 2-cents-per-gallon allocation to cities and counties for roads and streets not on the highway system. The 1953 Legislature increased the state gasoline tax to 6 cents per gallon, also increasing supplemental taxes in proportion, but made this increase effective for only two years, after which both the gas tax and supplemental fees were to be decreasd to the 5½-cent equivalent. The 1955 Legislature passed enactments to prevent the ½-cent-per-gallon decrease and make the 6-cents-per-gallon state gasoline tax and supplemental fees in continuing effect.

## Right-of-Way Problem

In the metropolitan Los Angeles area those freeways of the system providing the greatest traffic service are, naturally, those which lie through the most densely settled areas where the right-of-way problem is extremely acute, and may entail expenditures of more than 50 percent of the total cost of the project. Planning for such freeways must be on the basis of providing sufficient right-of-way funds to permit construction for traffic relief at the earliest possible date. The advance purchase of rights of way while properties are still unimproved has become recognized as the most effective planning and cost control in the protection of future free-

ways. By following this procedure, very considerable savings to the State have been effected, particularly where major highway improvements are involved such as freeways located on new alignment which require extensive widths of right of way through potential subdivision areas.

Legislation was adopted by the State Legislature in 1952 whereby the sum of $10,000,000 was provided in a special fund known as the "Highway Right-of-Way Acquisition Fund," for the express purpose of acquiring rights of way on which development was imminent. This fund was later changed to a revolving fund and increased by $20,000,000, making a total of $30,000,000 available on a state-wide basis.

### Summary of Savings

A brief summary of the advance acquisition of rights of way and the estimated savings realized in District VII, which has been accomplished to date through this fund, is as follows:

| Fiscal year ending | No. parcels acquired | Am't paid from Hwy. Acq. Fund | Estimated savings |
|---|---|---|---|
| 6-30-53 | 28 | $ 269,400 | $ 1,614,000 |
| 6-30-54 | 363 | 3,873,550 | 27,111,000 |
| 6-30-55 | 522 | 5,092,544 | 42,000,000 |
| Total | 913 | $9,235,494 | $70,725,000 |

In addition to the above, the California Highway Commission has authorized the acquisition of other properties amounting to $14,000,000 with an anticipated additional saving of $90,000,000. Acquisition is progressing rapidly on these other properties.

In this five-year period, 1950-1955, the record of accomplishment reveals 11,629 parcels of land acquired at a total cost of $137,466,464. Right-of-way clearance work has increased correspondingly, a total of 4,435 houses having been sold and removed from the right of way by the House Sales Section for a total return to the State of $7,706,716. Tabulation showing this record year-by-year follows:

| Fiscal year ending | No. of parcels acquired | Total cost | No. of houses sold | Amount received house sales |
|---|---|---|---|---|
| 6-30-51 | 1,733 | $16,538,846 | 599 | $1,200,347 |
| 6-30-52 | 1,415 | 15,244,133 | 343 | 746,747 |
| 6-30-53 | 1,616 | 19,051,707 | 334 | 699,568 |
| 6-30-54 | 3,390 | 40,971,476 | 1,508 | 2,252,396 |
| 6-30-55 | 3,475 | 45,660,302 | 1,651 | 2,807,658 |
| Total | 11,629 | $137,466,464 | 4,435 | $7,706,716 |

### Removal of Houses

In connection with this sale and removal of houses from the right of way, it is of interest to note that notwithstanding the fact that certain areas of land acquired for rights of way

**STATUS OF DISTRICT VII FREEWAY PROJECTS—JANUARY 1, 1956**

| | Total miles | Completed projects | | Under contract | | Right of way costs | Total costs to date |
|---|---|---|---|---|---|---|---|
| | | Miles | Constr. costs | Miles | Constr. est. | | |
| Pasadena Freeway<br>4-Level Structure to Glenarm St., Pasadena | 8.2 | 8.2 | $10,434,200 | | | $1,009,100 | $11,443,300 |
| Hollywood Freeway<br>Spring St. via Cahuenga Pass to Junction Golden State Freeway near Wentworth St. | 16.8 | 10.0 | 28,949,200 | | 172,500 | 28,360,000 | 57,481,700 |
| Santa Ana Freeway<br>Spring St. (Los Angeles) to Junction of San Diego Freeway near El Toro | 42.8 | 32.4 | 39,165,000 | 2.6 | 4,983,600 | 16,480,000 | 60,628,600 |
| San Bernardino Freeway<br>Santa Ana Freeway near Los Angeles River to San Bernardino County Line in Claremont | 30.7 | 15.7 | 19,007,500 | 15.0 | 15,537,700 | 16,015,000 | 50,560,200 |
| Harbor Freeway<br>4-Level Structure to San Pedro | 22.4 | 2.9 | 11,221,800 | 8.4 | 18,556,500 | 48,600,000 | 78,378,300 |
| Long Beach Freeway<br>Pacific Coast Highway in Long Beach to Huntington Dr. in South Pasadena | 21.5 | 7.9 | 10,891,100 | 4.8 | 8,671,200 | 18,435,000 | 37,997,300 |
| Golden State Freeway<br>Junction of Olympic and Santa Ana Freeway near Soto St. to Kern County Line | 72.7 | 47.2 | 15,646,600 | 2.4 | 5,102,700 | 24,640,000 | 45,389,300 |
| Ventura Freeway<br>Vineland Ave. to S. County Line Ventura and N. County Line Ventura to Santa Barbara County Line | 68.7 | 39.1 | 12,484,100 | | 53,000 | 11,148,000 | 23,685,100 |
| San Diego Freeway<br>Golden State Freeway near San Fernando Reservoir to San Diego County Line | 93.7 | | 310,300 | 1.2 | 2,256,300 | 15,335,000 | 17,901,600 |
| Colorado Freeway<br>Eagle Vista Dr. in Eagle Rock to Holly St. in Pasadena | 2.2 | 2.2 | 6,139,200 | | | 2,295,000 | 8,434,200 |
| Foothill Freeway<br>Hampton Rd. to Montana St. in Flintridge | 2.0 | 2.0 | 2,107,200 | | | 624,000 | 2,731,200 |
| Glendale Freeway<br>Los Angeles River to Ave. 36, near Eagle Rock Blvd. | 1.6 | | | | | 3,005,000 | 3,005,000 |
| Artesia Freeway<br>Normandie Ave. to Santa Fe Ave. and Palo Verde Ave. to Santa Ana Canyon Freeway | 21.7 | 1.9 | 1,010,900 | 6.2 | 2,877,600 | 2,140,000 | 6,028,500 |
| Santa Ana Canyon Freeway<br>Newport Beach to Riverside County Line | 27.4 | 12.7 | 2,990,600 | | | 1,258,000 | 4,248,600 |
| Ojai Freeway<br>West Main St. in Ventura to 0.4 mi. north of Foster Park | 5.7 | | | 4.1 | 2,100,000 | 1,000,000 | 3,100,000 |
| Other Freeways<br>Covered by Resolution of Adoption by Highway Commission | 127.7 | | | | | 3,075,000 | 3,075,000 |
| Total | 565.8 | 182.2 | $160,357,700 | 44.7 | $60,311,100 | $193,419,100 | $414,087,900 |

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are removed from the tax rolls, over 90 percent of the buildings which are sold and removed in the clearance of right of way are relocated to other locations and replaced on the tax rolls, rehabilitated and modernized in the relocation process to add years to their useful life. In this manner, what might appear to be a loss of taxable property assessed by the county is more than offset. Past experience has proven that the appreciated value of properties abutting freeways, particularly in industrial areas due to improved accessibility, creates increased assessed values to such an extent that freeway right-of-way acquisition does not reduce the value of taxable property but decidedly increases it.

Another very important activity of the District Right-of-Way Department is the rental of buildings on lands acquired and held for future freeway construction. In such cases, all state-owned properties suitable for renting are rented or leased under rental agreement containing adequate cancellation clauses until shortly before highway construction commences. A record of the income derived from the rentals of these properties is as follows:

| Fiscal year ending | Units | Yearly earnings |
|---|---|---|
| 6-30-51 | 332 | $180,680 |
| 6-30-52 | 587 | 304,532 |
| 6-30-53 | 1,090 | 418,290 |
| 6-30-54 | 1,305 | 597,731 |
| 6-30-55 | 1,742 | 888,252 |

The Division of Highways is forced to be in the rental business in order to keep houses occupied until the time arrives that the right of way has to be cleared for construction. This is the only effective way of preventing vandalism and keep a neighborhood from becoming rundown and deteriorated. While the rents received total substantial sums, the other considerations are of even greater importance.

### Work of Legal Staff

As we have noted above, while every effort is made to secure rights of way by amicable negotiation with property owners, in some instances it is necessary for the State to resort to eminent domain proceedings and start condemnation of private properties. The number of parcels carried through condemnation is only about 2 percent of the total number acquired, the other 98 percent being consummated by negotiation and mutual agreement. The condemnation of rights of way for District VII and the other southern counties is carried out by the legal department. During the five-year period 1950 to 1955 the district staff has carried out 248 condemnation suits for rights of way, totaling $4,101,495.

Before right-of-way agents start negotiations with property owners for areas that are needed for rights of way for freeways and other state highways the fair market value of each parcel is determined. The appraisal of property is conducted in a detailed, comprehensive manner not only ascertaining all of the salient features of each particular piece of property but also making an extensive search of the records to determine the sale price of comparable or similar properties in that particular neighborhood. It is in this painstaking and careful manner, with the review and approval of the Sacramento headquarters office, that the fair market value of each parcel is determined.

### Condemnation Policy

If the right of way agents after opening negotiations with property owners are unable to reach a satisfactory settlement with them, it is then necessary for the State to resort to condemnation proceedings. This legal procedure, that is also known as exercising the sovereign right of eminent domain, dates back into legal antiquity. It is an outgrowth of the retained right which kings had in the lands of their subjects when the business of the kingdom might later require those lands or some portions thereof. Were it not for the right of eminent domain, highway improvements would bog down and many times be impossible to carry out. The right of eminent domain is an important right of the people and its exercise is very necessary in order that state highway projects and freeway projects go forward, otherwise one recalcitrant property owner could hold up a project indefinitely. When a condemnation suit is instituted, the issue is not to determine if the property shall be taken but only to determine how much shall the State pay for it. The necessity for the legal taking of private property by condemnation is authorized by the California Highway Commission in the passing of resolutions to that effect.

### Bridge Department Accomplishments

One of the most important elements in freeway design and construction are the grade separation bridges. Without bridges to carry cross traffic, pedestrians, vehicles and railroad trains, either over or under freeway traffic, we would have no freeways as we know them today.

Following is a summary of completed and going contracts in District VII listed under the fiscal year in which budgeted:

| Fiscal year | Number of structures | Value |
|---|---|---|
| 1950-51 | 68 bridges | $11,500,000 |
| 1951-52 | 47 bridges | 7,000,000 |
| 1952-53 | 34 bridges | 5,500,000 |
| 1953-54 | 117 bridges | 19,900,000 |
| 1954-55 | 76 bridges | 11,900,000 |
| | 342 bridges | $55,800,000 |

### Stage Development

The first freeways within the limits of Los Angeles County have all been developed as full freeways. This means that all access rights of abutting property have been acquired and that grade separation bridges and subways have been built to carry all cross arterials either under or over the freeways.

Other freeways, planned for ultimate full freeways, have for the most part as a first stage been developed as expressways with access rights controlled and with central dividing strips to separate opposing traffic but without grade separation structures. In the case of those freeways so developed as expressways where cross streets intersect at grade, this stage of design usually has the intersections channelized and signalized. In the case of the Santa Ana Freeway in Orange County some sections have already been constructed as full freeways while other sections presently on expressway basis are being rapidly converted to the full freeway status.

In order to determine the progress that has been made in the last five years in the District VII freeways, reference is made to the status as of January 1, 1951. As of that time the total length of state highways covered by freeway resolutions totaled 290.9 miles as compared with the total today of 565.8 miles. Completed freeway and expressway projects in 1950 totaled 65.1 miles whereas the total January 1, 1956, is 182.3 miles.

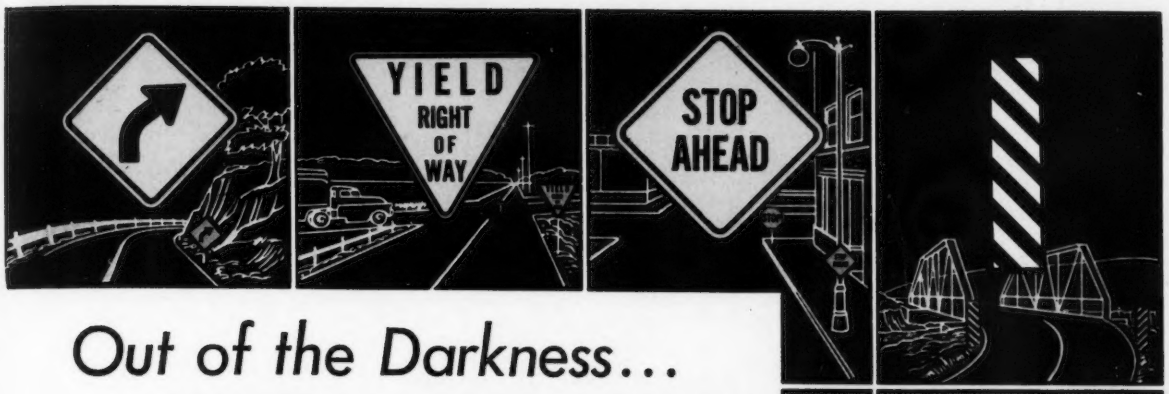


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**Figure 2**
**Looking north along Harbor Freeway from above Washington Boulevard in Los Angeles.**

The full force and effect of the Collier-Burns Highway Act in 1947 and subsequent legislation on freeways for District VII, is shown by comparing the total costs to date on January 1, 1951, of $136,346,200 with the January 1, 1956, total of $414,087,900.

### Pasadena Freeway

When the first six-mile unit of completed construction on the portion of this freeway from Avenue 26 in Los Angeles to Glenarm Street in Pasadena, then called "Arroyo Seco Freeway," was dedicated and opened to public traffic on December 30, 1940, it was acclaimed as the West's first freeway. Subsequently, extensions were made to this section of completed freeway to extend it southerly through Elysian Park to a connection with the Hollywood Freeway at the four-level structure.

The last unit of construction, one-half mile in length in the City of Los Angeles between College Street and the Hollywood Freeway, was completed and opened to traffic on September 22, 1953. This was the most important event on the Pasadena Freeway that occurred during the past five-year period. On that date for the first time all levels of the unique traffic interchange structure, comprising four levels with connecting roadways to take care of all necessary traffic movements, was put into full operation. The Elysian Park section of the Pasadena Freeway is now carrying 112,000 vehicles per day and the estimated daily traffic utilizing the four-level interchange structure is 250,000 vehicles per day.

### Harbor Freeway

The Harbor Freeway extends 22.4 miles from junction with the Hollywood Freeway in the four-level traffic interchange structure southerly to Battery Street in the San Pedro district of the Los Angeles Harbor.

From the standpoint of construction this is a new freeway since five years ago nothing had been completed and opened to traffic. Some construction on grade separation bridges was in progress at that time near the northerly end. Five years ago the record shows that $10,500,000 had been expended for rights of way and $3,000,000 on contracts to get construction under way. As of today the total expenditures on the Harbor Freeway total $78,378,000.

On March 27, 1956, a newly completed link of the Harbor Freeway 1.4 miles in length between 23rd Street and 42nd Street in the City of Los Angeles was opened to public traffic. This brings the total length of completed Harbor Freeway to 4.3 miles extending southerly from the northerly terminus at the four-level structure on the Hollywood Freeway. According to the 1955 traffic counts, this section of freeway is now carrying a total of 160,000 vehicles per day. Three contracts are now in progress on the Harbor Freeway covering 7.0 miles and costing $12,400,000. Right of way acquisition negotiations are being carried on, and nearly all of the parcels have been acquired that are necessary to complete this freeway.

### Long Beach Freeway

The Long Beach Freeway is also one of the newer freeway developments. The start of construction was heralded by groundbreaking ceremony at the southerly terminus of this freeway at Pacific Coast Highway. State Highway Route 60, in the City of Long Beach, on June 27, 1951, less than five years ago. Since that time there has been steady progress of construction on this important freeway in the East Los Angeles metropolitan area.

The total length of the Long Beach Freeway from Pacific Coast Highway (Route 60) in Long Beach to Huntington Drive in East Los Angeles approaching the City of Alhambra is 21.5 miles. As of the present time, 7.9 miles of the Long

**Figure 3**
**Looking southerly along the Harbor Freeway from Fourth Street in downtown Los Angeles.**

Beach Freeway have been completed from Pacific Coast Highway northerly to the crossing with Atlantic Boulevard east of the City of Compton. Also completed in the East Los Angeles area during 1954 are two railroad grade separation bridges to carry the Long Beach Freeway over the Santa Fe Railroad freight yards and the Union Pacific Railroad freight yards. Both of these structures are about one-fourth mile long and the construction cost of these two is $2,660,000.

On April 20, 1956, a contract was completed for one mile of the Long Beach Freeway extending from Washington Boulevard to Verona Street. This construction contract included eight grade separation bridges and provided for complete interchange of traffic between the Long Beach Freeway and the Santa Ana Freeway. The contract allotment was for $2,692,000. There are now in progress three other construction contracts on the Long Beach Freeway providing for an additional 3.8 miles of construction, for which the total of the construction allotments is $5,400,000. Bids were opened on April 19, 1956, for an additional 3.8 miles of the Long Beach Freeway from Imperial Highway to Florence Avenue. The low bidder was Webb & White and W. J. Disteli, of Los Angeles. The amount of the low bid was $4,174,204. It is anticipated that early award of this contract will be made by the State Director of Public Works and that construction will soon be under way.

There remains to be constructed on the Long Beach Freeway to complete the section from the Santa Ana Freeway to Pacific Coast Highway in Long Beach, a three-mile length that has not yet been financed. It is anticipated that the California Highway Commission in preparing its next budget will include sufficient funds so that this remaining construction can be advertised early in 1957 and completed during 1958.

### Hollywood Freeway

It is of interest to note that all construction units of the original 10-mile length of Hollywood Freeway from Vineland Avenue in the San Fernando Valley to Spring Street in the Los Angeles Civic Center, were completed and opened to public traffic during the past five-year period.

The first useable section of the Hollywood Freeway to be opened to public traffic was the three-mile section between Grand Avenue and Silver Lake Boulevard. This was opened to public traffic on December 27, 1950, with final completion and acceptance of the construction contracts being made on February 13 and 16, 1951.

The final construction contract to complete this 10-mile unit of the Hollywood Freeway was completed and accepted by Director of Public Works Frank B. Durkee on August 5, 1954.

On basis of 1955 traffic counts, the average daily vehicular traffic on the Hollywood Freeway westerly of the four-level structure, is 180,000 vehicles per day. There have been individual counts that have exceeded this.

The Hollywood Freeway Extension joins the main Hollywood Freeway near the intersection with Lankershim Boulevard and extends northerly 6.8 miles to the proposed Golden State Freeway near Wentworth Avenue.

District VII right-of-way forces are concentrating on acquiring rights of way for the Hollywood Freeway northerly extension for the 1.1-mile unit extending from Lankershim Boulevard to Moorpark Street where early construction is scheduled. On January 12, 1956, bids were opened for construction of two bridges on this section of freeway; one across the Los Angeles River, and the other at Vineland Avenue. This project, for which the contractor, Oberg Construction Corporation, submitted the low bid of $910,694, is to be financed from items in the 1955-56 construction budget of $1,100,000.

There is an item in the 1956-57 Fiscal Year budget in the amount of $2,350,000 for carrying out the additional structures and freeway construction necessary to complete this 1.1 miles of freeway. The construction schedule calls for advertising this important contract early this summer.

### Santa Ana Freeway

The Santa Ana Freeway is one of the most important traffic arteries on the system of freeways being constructed by the State Division of Highways to serve Southern California. This freeway extends from the easterly terminus of the Hollywood Freeway at Spring Street in the Los Angeles Civic Center in a generally southeasterly direction for a total of 42.8 miles. It passes through the cities of Buena Park, Anaheim, Santa Ana and Tustin to a junction with the San Diego Freeway near the town of El Toro. This freeway, following as it does a northwesterly and southeasterly direction generally paralleling the Pacific Ocean coastline, makes it of great strategic value because so many of the existing roads in this part of the state have been established in a general northerly-southerly or easterly-westerly direction.

In point of time, the Santa Ana Freeway ranks as one of the earliest freeways initiated for the Los Angeles area. It may be considered as having been started in 1933 when the Los Angeles City Engineering Department started preliminary plans for the construction of a new viaduct for Aliso Street over the Los Angeles River. This important con-

Figure 4
LEFT — Looking east along Hollywood Freeway toward Los Angeles Civic Center as it looked five years ago, with traffic moving on top level only of four-level structure. RIGHT—Looking easterly along Hollywood Freeway toward Civic Center with heavy traffic on four-level interchange structure.

struction was started on November 6, 1939, by the City of Los Angeles as a cooperatively financed Federal Works Progress Administration project. It was cooperatively financed with funds provided by the Federal Government, City of Los Angeles, County of Los Angeles, railroad companies, and the State. This project was completed August 14, 1944. In addition to providing the crossing with the Los Angeles River, it provided for connection and interchange between the San Bernardino Freeway and the Santa Ana Freeway.

The first contract awarded by the State Division of Highways on the Santa Ana Freeway was for the section from Kearney Street to Soto Street in the City of Los Angeles. This was awarded January 16, 1946 and completed December 11, 1947. Subsequently, contracts for full freeway construction were completed southeasterly as far as the town of Norwalk. Beyond the town of Norwalk into Santa Ana, through what was then regarded as a rural area, the initial construction by the State was carried out on a divided highway basis with intersecting roads carried across at grade, with channelized and signalized intersections. Railroad crossings, were also at grade. In this manner, with a relatively small expenditure of funds, a badly needed highway facility was provided between Los Angeles and Santa Ana, although not on a freeway basis throughout its entire length.

As the character of the land passed through changed from agricultural to residential and industrial use, and the traffic volumes increased, it became necessary for the State to enter into additional contracts to convert expressway portions to full freeway status. One such contract has already been completed and two are now under construction. One of these is the contract between Broadway in Santa Ana and Lewis Street, 2.6 miles northerly, that the State has with the Griffith Company of Los Angeles. The contract allotment is $4,385,700. The contract is now 60% completed, with the estimated date for final completion being December 1956. Due to the very complicated traffic movement in the vicinity of Orange County Hospital where the Stanta Ana Freeway crosses Chapman Avenue, and the further problems introduced by proximity of the Southern Pacific railroad, the grade separation structures and connecting roadways that were required at this location necessitated one of the most intricate and extensive interchange systems that the State has yet designed and constructed. The scheduled date for completion is early in 1957.

State Director of Public Works Frank B. Durkee on March 23, 1956, awarded to J. E. Haddock, Ltd. and R. M. Price Company of Pasadena a contract for converting 6.5 miles of expressway on the Santa Ana Freeway to full freeway standards. This contract includes freeway construction through the cities of Buena Park and Anaheim in Orange County. The contract allotment is $6,414,742. This is the largest single contract allotment for District VII.

Plans are nearing completion to extend the construction of this freeway southerly from Browning Avenue in Tustin 7.8 miles to its southerly terminus at the junction with the San Diego Freeway near El Toro. In the budget for the 1956-1957 fiscal year as adopted by the California Highway Commission, provision is made for financing this future construction from two items that total $5,145,000. It is anticipated that this construction will be ready to advertise for contract in late summer or early fall of this year.

**Figure 5**
**Looking northeasterly, showing completed San Bernardino Freeway over Garfield Avenue.**

Five years ago only 12.3 miles of the Santa Ana Freeway were completed and open to traffic, whereas today, a total of 32.4 miles are completed, at a total cost of $61,000,000. 1955 traffic counts indicate that near Soto Street in the City of Los Angeles, the average daily traffic is 113,000 vehicles per day.

### San Bernardino Freeway

The total length of the San Bernardino Freeway, formerly called "Ramona Freeway," between the junction with the Santa Ana Freeway at the Aliso Street bridge over the Los Angeles River to the San Bernardino county line, is 30.8 miles. The San Bernardino Freeway is now completed outbound from the junction with the Santa Ana Freeway in Los Angeles easterly to Rosemead Boulevard east of Alhambra, a distance of 9.3 miles. An additional 6.3 miles through the cities of Pomona and Claremont, from San Dimas Avenue to the San Bernardino county line, was opened to public traffic December 1, 1954. On this same date 7.2 miles of completed construction adjoining in District VIII, extending through Upland and Ontario to Archibald Avenue in San Bernardino County, was also opened to traffic.

Four contracts are now in progress on the San Bernardino Freeway, extending for 15.3 miles. These construction allotments total $16,466,500. When these four construction contracts are completed late next summer, the entire length of the San Bernardino Freeway in Los Angeles County from the Los Angeles River at Aliso Street junction with the Santa Ana Freeway to the San Bernardino County line will be completed. This indicates the extent of the accomplishments that have been carried out during the past five years.

Five years ago there were only six miles of the San Bernardino Freeway that were completed and opened to traffic. This was the most westerly section extending from the Los Angeles River bridge to Helen Drive in the City Terrace area just easterly of the Los Angeles city limits. The total expenditures to date on the San Bernardino Freeway for the 30.8 miles, including moneys spent and obligated for rights of way and construction, is approximately $50,000,000. The traffic on the completed portions of the San Bernardino Freeway has been steadily increasing. The average daily traffic in 1950 was 25,000 vehicles per day whereas recent counts taken at Soto Street show 88,000 vehicles per day. This tremendous increase in traffic is to a considerable extent due to the unprecedented building program in the areas passed through. As one example of this, information has come to us that the City of West Covina in 1950 had a population of 2,667 whereas recently the estimated population is 28,631.

### Ventura Freeway

The Ventura Freeway extends from the Hollywood Freeway near Vineland Avenue in the San Fernando Valley to the Santa Barbara county line, a distance of 65.1 miles. Of this mileage, 39.1 miles have been completed at a construction cost of $12,484,000 to four-lane divided highway or expressway standards. This completed construction is all westerly of the west city limits of Los Angeles at Calabasas. Seventy-five percent of this construction was carried out during the past five years.

The California Highway Commission on May 18, 1955, adopted a freeway routing to carry the Coast Highway (U.S. Highway 101) through the City of Ventura. Plans are now in progress so that construction can go forward whenever financing can be arranged for this entire 5.5 miles through the City of Ventura.

Within the City of Los Angeles, the Highway Commission has adopted freeway resolutions covering 16 miles of the Ventura Freeway from the westerly city limits of Los Angeles near Calabasas to the existing terminus of the

Hollywood Freeway. District right-of-way forces are now actively engaged in acquiring rights of way throughout the entire length of the Ventura Freeway in Los Angeles from Hollywood Freeway Extension to Calabasas at the west city limits. Much right of way has already been cleared from Sepulveda Boulevard westerly and a construction contract for two bridges is now under way. One of these bridges is to carry the Ventura Freeway over Topanga Canyon Road and the other is to carry the freeway over existing Ventura Boulevard. Funds in the amount of $6,270,000 for completion of the construction within this area for 3.8 miles between Kelvin Avenue and Calabasas and for 2.6 miles from Sepulveda Boulevard to Encino Avenue are included in the 1956-57 Fiscal Year budget.

**San Diego Freeway**

Much has been accomplished on the San Diego Freeway, formerly called "Sepulveda Freeway," within the last five-year period. The right-of-way expenditures to date of January 1, 1956, total almost $18,000,000.

The start of actual construction on the San Diego Freeway dates back to September 20, 1954, when ground-breaking ceremonies, under sponsorship of the Santa Monica Chamber of Commerce, were held. Governor Goodwin Knight officiated at the ceremonies which were conducted at the intersection of Sunset Boulevard and the San Diego Freeway in West Los Angeles.

This ground-breaking ceremony was to start off the construction on the contract that had been awarded to Geo. W. Peterson and Jack W. Baker of La Canada, on the basis of their low bid amounting to $722,657.60, for the construction of the grade separation bridge to carry Sunset Boulevard over existing Sepulveda Boulevard and over the new San Diego Freeway, as well as the construction of three other nearby bridges. This contract was completed and accepted February 16, 1956.

In this same area, construction under a State contract with the Thompson Construction Company, is now in progress to complete 1.2 miles of the San Diego Freeway between Waterford Street and Casiano Drive. The construction allotment on the contract is $1,461,400. Work is now 50% completed and the estimated date of completion for the entire job is October, 1956.

To the south of this construction, the Thompson Construction Company was low bidder on the 1.1 mile length of the San Diego Freeway from Waterford Street southerly to Ohio Avenue. This important freeway project that includes seven reinforced concrete bridges, including the Wilshire Boulevard interchange, has a contract allotment of $2,500,000. The work under this contract further includes construction on Federal Avenue and in the grounds of the Veterans' Administration Center, in return for the freeway right of way that was granted.

The award of contract was made on January 30, 1956, and the contractor has made a good start on the construction. Clearing operations are in progress throughout the entire length of the project, extensive grading work has been started, and pile-driving operations are now under way at the site for the Wilshire Boulevard interchange bridge. The estimated date of completion for this unit of the San Diego Freeway is March, 1957.

There is a fifth contract now under construction on the San Diego Freeway, and that is in the San Fernando Valley for a bridge to carry the San Diego Freeway over Ventura Boulevard in the Sherman Oaks area. This contract was recently awarded to Oberg Bros. The contract allotment is $465,000. Work is estimated to be 20% completed and the final date of completion on this contract is September, 1956.

Funds in the amount of $4,565,000 for the construction of the traffic interchange layout between the San Diego Freeway and the Ventura Freeway extending from Valley Vista Avenue to Burbank Avenue, have been budgeted in the 1956-57 fiscal year, and this work will be combined with the construction of the Ventura Freeway between Sepulveda Boulevard and Encino Avenue and advertised next month.

**The Newer Freeways**

Other newer freeways might be called products of the past five years because five years ago construction had not been started on them. All that had been accomplished five years ago were route adoptions by the California Highway Commission, allocation of funds for right-of-way acquisition and preparation of designs and plans for construction.

The Colorado Freeway, extending from Eagle Vista Drive in Eagle Rock to Holly Street in Pasadena, being entirely complete with the new Pasadena Pioneer's Bridge over the Arroyo Seco, is of vital importance to the people of Pasadena and this area. The last unit of construction on the Colorado Freeway from Eagle Vista Drive to Avenue 64 was completed July 28, 1955.

A section of the Foothill Freeway from Hampton Road to Montana Street in the Flintridge area, 1.8 miles in length, was completed October 28, 1955. This short section of full freeway was enthusiastically welcomed by the people of Pasadena, Altadena, Flintridge and La Canada, because it corrected an exasperating traffic congestion caused by the narrow, two-lane width roadway over Devil's Gate Dam which had for many years been the only direct highway connection between these communities.

**Golden State Freeway**

During the past five years, the portion of the Golden State Freeway, U. S. Highway 99, locally known as the "Ridge Route" between Tunnel Station and the Kern county line, 45.2 miles in District VII, has been converted to a four-lane expressway. The total cost of this reconstruction, completed February, 1953, was $13,500,000. Southerly from Tunnel Station for 27.5 miles the Golden State Freeway is to be carried out to full freeway standards to its southerly terminus at junction with the Santa Ana Freeway. Of this portion the northerly three miles from Tunnel Station southerly to Sepulveda Boulevard was completed at a cost of $3,200,000 on August 25, 1955.

On the Golden State Freeway two very important contracts have been started that affect the Griffith Park area. The first of these was awarded on August 15, 1955, carrying an allotment of $748,000, provides for the construction of two grade separation bridges at Los Feliz Boulevard in the City of Los Angeles. The anticipated date of completion is in the summer of 1956. The second contract, awarded October 3, 1955, called for grading and paving 4.2 miles of the Golden State Freeway in the Cities of Los Angeles, Glendale, and Burbank, extending from 0.9 mile south of the Los Angeles River in the City of Los Angeles to Ash Avenue in the City of Burbank. Included in this construction are six bridges and three pedestrian undercrossings.

**Continuing Construction**

For continuing construction on the Golden State Freeway within the City of Los Angeles there are two construction items in the 1956-57 Fiscal Year budget that provide for building 2.7 miles of this freeway extending it southerly

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from near the Rodger Young Village to Glendale Boulevard for which the budgeted funds total $4,890,000. It is expected that this unit of construction will be advertised this spring. Combining this sum with the allowance set up for acquisition for rights of way on the Golden State Freeway the funds available in the 1956-57 Fiscal Year budget total $17,890,000.

Right-of-way activities are under way for acquiring all right-of-way needed for the Golden State Freeway in the City of Los Angeles between Glendale Boulevard and junction with the Santa Ana Freeway. Right-of-way funds for the complete acquisition of right of way for project to be constructed in East Los Angeles between Sixth Street near the Santa Ana Freeway and Mission Street northerly of the San Bernardino Freeway are included in the 1955-56 Fiscal Year right-of-way budget, and efforts are being made to concentrate on clearing this right of way. Completion of the Golden State Freeway through the City of Los Angeles, connecting it with the Santa Ana Freeway, the San Bernardino Freeway and the Pasadena Freeway, is of vital importance in clearing freeways serving the Los Angeles Civic Center and business district.

### Glendale Freeway

On the Glendale Freeway for the 1.6-mile section between the Los Angeles River and Avenue 36 near Eagle Rock Boulevard, plans are now completed and construction funds are included in the 1956-57 Fiscal Year budget in the amount of $3,270,000. This includes grade separation over Taylor Yard tracks of the Southern Pacific Railroad. Advertising of this contract is expected later this year. The 1.5-mile section of this freeway from the Los Angeles River extending it southerly to Glendale Boulevard was adopted by the Highway Commission on December 14, 1955.

The Artesia Freeway which is a part of State Highway Route 175 extends from Coast Highway Route 60 in Redondo Beach to a junction with the Santa Ana Canyon Freeway in Orange County near Olive. Of this total length of 34 miles, 21.7 miles have been adopted by the California Highway Commission as freeway routing. These two sections of freeway in Los Angeles County extend from Normandie Avenue to Santa Fe Avenue, and in Orange County from Palo Verde Avenue to the Santa Ana Canyon Freeway. On these freeway sections during the past five years, 1.9 miles between Normandie Avenue and Main Street were completed at a cost of $1,000,000.

Opened to public traffic on April 18, 1956, was the 2.2 mile section from Central Avenue to Alameda Street for which the construction allotment is $1,710,000. Included in this project were three very important bridge structures to carry the freeway over Pacific Electric Railway, Compton Creek, Alameda Street, and the Southern Pacific Railroad. At the easterly end of this freeway in Orange County is section four miles in length extending from Cypress Avenue southerly of the City of Placentia to the Santa Ana Canyon Freeway. This contract has a construction allotment of $1,200,000. Plans are in progress for the remaining portions of this important east-west freeway.

The Santa Ana Canyon Freeway for which total expenditures now are $4,248,000, including the improvement of Route 43 through Costa Mesa in Orange County, is largely a development of the last five-year period.

The Ojai Freeway in Ventura County is one of the most recent freeway developments. Construction to freeway standards from West Main Street in the City of Ventura northerly for 4.1 miles is now under construction, with completion date set for midsummer of 1956.

### Other Freeways

In addition to the above described freeways, the California Highway Commission has adopted freeway routings during the past five years for 127.7 miles of additional freeways upon which as yet no construction has been started.

Limitation of space prevents further detailed description of these very important freeway projects that are so badly needed in this area. Designing of these freeways is being pushed as fast as other commitments will permit, and good use of advance right-of-way funds is being made whenever critical situations arise where action must be taken now to protect future rights of way from impending private developments which if permitted to go forward would cause great increase in future costs of rights of way. However, there are some of these freeways of such great importance they should be briefly mentioned.

The Riverside Freeway was adopted by the California Highway Commission on November 18, 1954. This freeway resolution covered 10.9 miles extending from junction with the Golden Gate Freeway, State Highway Route 4, in Griffith Park westerly to Sepulveda Boulevard, State Route 158, which included the last remaining section of Ventura Freeway that had not previously been adopted as a freeway.

### San Gabriel River Freeway

The California Highway Commission adopted the route for the San Gabriel River Freeway on December 15, 1954. This freeway extends from the junction with the Garden Grove Freeway near Long Beach to a junction with the San Bernardino Freeway near El Monte, a distance of 23 miles. Design is now under way in order to acquire vacant property subject to industrial and residential development under the advance right-of-way acquisition program.

The portion of the Pomona Freeway between Potrero Grande Drive and the junction of Route 19, a length of 18 miles, was adopted by the Highway Commission on April 2, 1954. Notwithstanding the intense subdivision activity in the Puente area, right-of-way needs for the freeway have been established ahead of the numerous subdivisions, and acquisition of vacant property is under way.

On June 21, 1955, the Highway Commission declared that portion of existing Route 23 (US 6) between Route 4 (US 99) and Solamint, a distance of seven miles, to be a freeway. The commission has announced their intention to hold a public hearing on February 9, 1956, for a proposed freeway route between Vincent Y and junction of Route 59, a distance of 19.6 miles. The latter section passes through the Palmdale-Lancaster area where there is considerable activity in new industry and subdivisions.

The California Highway Commission adopted the route for the Olympic Freeway between La Cienega Boulevard and the Santa Ana Freeway on May 21, 1954. Funds for right-of-way acquisition are available between the Harbor Freeway and the Santa Ana Freeway, and design studies are now in progress. Due to the heavy industrial development in the area between Harbor Freeway and the Santa Ana Freeway it has proven economically feasible to design and construct a continuous viaduct so as to hold to a minimum the cost of rights of way required for this freeway and secure other advantages.

### Outlook for the Future

There is good reason to believe that the next five years will see fully as much if not more freeway development in this area than has been obtained during the past five-year period because great advantage will be had of previously made right-of-way purchases. Also, it may be anticipated that with increasing vehicle registration, increasing moneys will become available. It is, however, obvious that this area is not getting the freeways which it needs quickly enough to meet the expanding requirements of growing population. The present hope is that Congress may this year pass legislation increasing federal aid, particularly for use on interstate highway routes. This would be a substantial help but when population growth is as explosive as is now being experienced in this area, it would appear that still other additional funds must be provided if the people are to have all the freeways and other highway facilities that are so badly needed.

As has been stressed in this article, close cooperation among all governmental and civic organizations is the basic key to success in providing a tangible freeway system which must represent the greatest good to the greatest number of people in this great State of ours.

## TRAFFIC ENGINEERING IN NEW HAVEN, CONN.

*(Continued from page 383)*

### PLANNING ACTIVITIES

The most important activities of the Traffic Engineer during 1955 were his efforts in cooperation with the planning agencies of the city under the direction of a Development Administrator. Here were carried out the studies for major changes in land use patterns and street and highway facilities in the city. Here traffic was but one facet of the overall program of the administration to cause a revitalization of the City of New Haven through planned redevelopment projects and cooperation with the State Highway Department in matters of expressway construction.

The Connecticut Turnpike, a new major east-west toll route being constructed in Connecticut, passes through New Haven. A most important interchange at which Route 1 and Route 5 will meet is located within three quarters of a mile of the center of the city. Through negotiations prior to the creation of the department, it had been agreed that an expressway would depart from this interchange and enter and pass through the central area within 1,500 feet of the 100% corner of the retail area. This latter expressway, known locally as the Oak Street Connector, would distribute traffic throughout the central area. It became among the first duties of the Traffic Engineer to examine the design of this expressway, its access and exit facilities, in reference to New Haven's street system. From these studies certain modifications were developed in cooperation with the Highway Department.

Contigious to this expressway an area nearly a quarter of a mile square adjacent to the business center was being studied for redevelopment by the Redevelopment Agency. Here plans for adequate traffic access and movement and off-street parking facilities within the new area were necessary. By the end of 1955 all planning work and negotiations on these two major undertakings had been completed and agreements reached for their construction.

## Yearbook Changes

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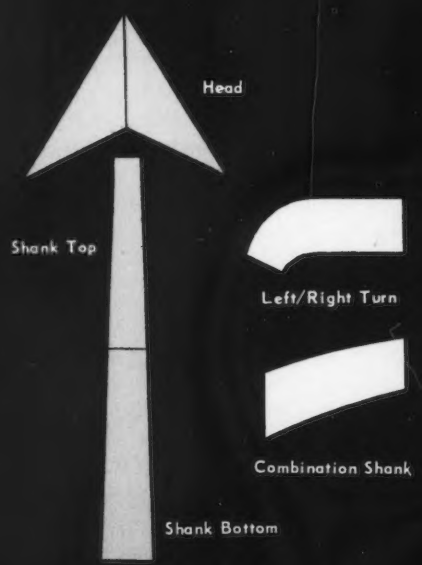


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by Herbert S. Levinson (Assoc. Mem., ITE)

Associate Traffic Engineer, Wilbur Smith & Associates, New Haven, Conn.

THE EFFECT OF A BLOCKADE on a traffic stream has been the subject of many analyses. Frequently, the problem has been solved by successive approximations:—In addition to the initial delay imposed by the blockade, there is a subsequent delay caused by the departure of the queue of vehicles blocked. In this period additional vehicles are blocked and additional departure time is required. This condition occurs repeatedly, always of lesser magnitude, until normal operations are resumed. The analysis subsequently presented develops a queueing, or sluggishness factor which represents the limit that would be approached by taking an infinite number of successive approximations.*

**Derivation of formula for sluggishness or queuing effect**

Let it be assumed that a roadway has a volume of V vehicles per hour, L effective lanes and that its traffic incurs a blocking period of R seconds:

(1) The number of vehicles per lane per second,

$$v = \frac{V}{L} \quad \frac{1}{3600}$$

(2) The initial number of vehicles per lane delayed,

$$n_1 = v \cdot R$$

(3) The departure headway for each vehicle in the queue is h.

(4) The clearance time for $n_1$ vehicles to leave,

$$t_2 = n_1 h \qquad (a)$$

The number of vehicles per lane arriving in the clearance time $t_2$ is $n_2$, and $n_2 = t_2 v$ or, by substitution

$$n_2 = (n_1 h)\ v \qquad (b)$$

(5) Similarly, the following relationships which are essentially equivalent to formulas 4(a) and 4(b) can be demonstrated:

$$t_3 = n_2 h \qquad n_3 = (n_2 h)v$$

$$t_4 = n_3 h \qquad n_4 = (n_3 h)v$$

$$t_n = n_{n_1} h \qquad n_n = (n_{n_1} h)v$$

(6) The total blocking time, T, is the sum of the initial blocking period and the subsequent delay times:

$$T = R + t_2 + t_3 \ \ldots\ + t_n$$

(7) Substituting the values derived in equations 4 and 5 in equation 6:

$$T = R + n_1 h + n_2 h + \ \ldots\ n_{n_2} h \qquad (A)$$

$$T = R + Rvh + (n_1 hv)h \ \ldots\ (n_{n_2} hv)h \qquad (B)$$

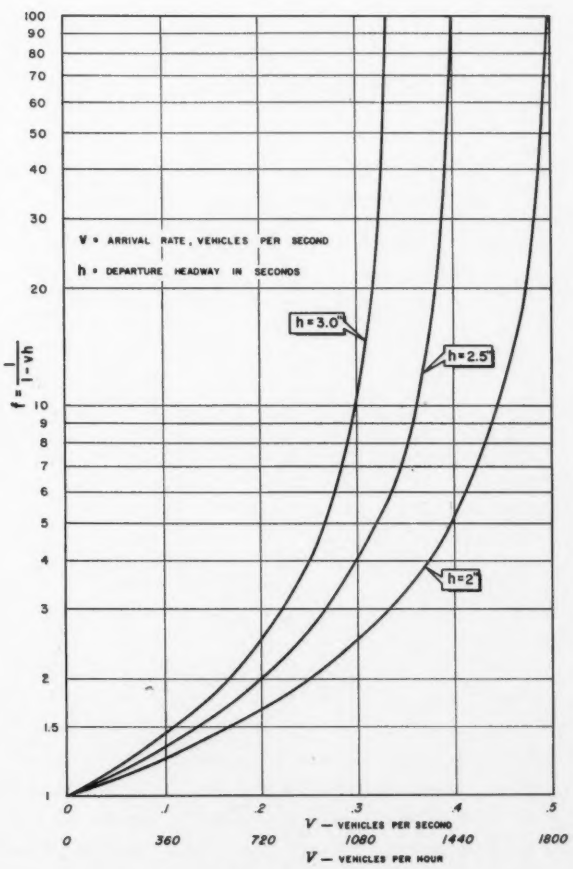
$$T = R + Rvh + Rv^2h^2 \ldots + Rv^n h^n) \qquad (C)$$

$$T = R\ (1 + vh + v^2h^2 \ \ldots\ + v^n h^n) \qquad (D)$$

(8) The expression in the parenthesis represents a converging geometric series. As n approaches infinity the sum of the series approaches

$$\frac{1}{1 - vh}$$

(9) Hence the total delay $T = \dfrac{R}{1 - vh}$




THE QUEUEING FACTOR

Figure 1

*The formula derived is similar in result to that set forth in the *Traffic Engineering Handbook*, and to that developed by Greenshields in "Traffic Performance at Urban Intersections." It is believed that the method of analysis is original.

(10) The number of vehicles per lane delayed,

$$N_L = vT = \frac{vR}{1 - vh}$$

(This relationship could be demonstrated in steps similar to 5, 6, 7 & 8, in which $N_L$ is calculated directly.)

(11) The total vehicles delayed, $N = L\,N_L$, or

$$N = \frac{L\ v\ R}{1 - vh}$$

**Interpretation:**

It is evident from inspection of formulas 9, 10 and 11 that the factor

$$f = \frac{1}{1 - vh}$$

represents the additional time loss and vehicle delay due to the sluggishness or queueing effect of the traffic stream. This loss depends on the departure headway, h, usually 2 to 3 seconds, and the approaching traffic density. It may be utilized in evaluating delays due to railroad trains, drawbridges, traffic signals, or other sources of blockade.

The function $f = \frac{1}{1 - vh}$ is summarized in Table I for various vehicle headways, which are found in practice. It is apparent that the time losses due to the first cars (and subsequent vehicles) can be added to the initial blocking period.

TABLE I

TYPICAL VALUES $\frac{1}{1 - vh}$ for $f = \frac{1}{1 - vh}$

SLUGGISHNESS-QUEUING FACTOR

| VOLUME PER LANE | | DEPARTURE HEADWAY | | |
|---|---|---|---|---|
| Per Hour | Per Second | | | |
| V | v | h = 2 | h = 2.5 | h = 3 |
| 36 | .01 | 1.020 | 1.025 | 1.031 |
| 180 | .05 | 1.111 | 1.142 | 1.716 |
| 360 | .10 | 1.250 | 1.333 | 1.427 |
| 540 | .15 | 1.429 | 1.600 | 1.818 |
| 720 | .20 | 1.667 | 2.000 | 2.500 |
| 900 | .25 | 2.000 | 2.667 | 4.000 |
| 1080 | .30 | 2.500 | 4.000 | 10.000 |
| 1200 | .333 | 3.000 | 6.000 | |
| 1260 | .35 | 3.333 | 8.000 | |
| 1440 | .40 | 5.000 | | |
| 1620 | .45 | 10.000 | | |
| 1710 | .475 | 20.000 | | |
| 1800 | .50 | | | |

Values indicated in the table have also been graphed in Figure I; it is believed that the curves will be of value to the practicing traffic engineer. The sensitivity of the function to high traffic densities is quite evident. The curves increase sharply for traffic densities in excess of 700 vehicles per lane per hour. It follows that loadings greater than this value cannot be subject to long delays without complete failure developing.

**Applications**

Two typical applications of the factor f follow.

*Illustration I.*

Let it be assumed that a roadway is carrying 360 passenger vehicles per hour. Single lane operation is prevalent. A railroad train blocks the traffic stream for a two minute period. It is required to find the total number of vehicles delayed and the total delay time.

*Solution:*

—The vehicles per lane per second $v = \frac{360}{3600} = 0.1$

—The initial blocking time = 120 seconds

—The departure headway on this street was found (through observations) to be 2.5 seconds.

The factor f, as determined from either Table I or Figure I, is 1.333

—The total delay time is (120). (1.333) or 160 seconds.

—There are Rfv or (160) (.1) = 16 vehicles delayed.

*Illustration II.*

Let it be assumed that a roadway is carrying 1080 vehicles per hour in two traffic lanes; that heavy trucks compose 10 per cent of the total roadway flow; and that a drawbridge blocks traffic for five minutes. It is desired to determine the number of vehicles delayed. Assume a "getaway" headway loss of 5 seconds.

*Solution:*

—The vehicles per lane $\frac{V}{L} = 540$

—The vehicles per lane per second $= \frac{540}{3600} = 0.15$

—The departure headway is approximately 90% (2.5) + 10% (2) (2.5) = 2.75 seconds. (A heavy truck has about twice the headway of a passenger car).

—The factor f can be determined by interpolating from either the figure or table, or can be computed directly as

$$f = \frac{1}{1 - vh}$$

$$= \frac{1}{1 - (.15)\ (2.75)} = 1.69$$

—The total delay = 1.69 (300 + 5 seconds) = 515 seconds

—The total vehicles delayed = LvRf

=Z(.15) (515)=154 vehicles

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# Traffic News

## Chicago Area Transportation Study Gets Underway

A thorough analysis of transportation needs in the Chicago Area is necessary. Current planning of highways is based on a small survey 15 years old. With these facts badly out of date and inadequate for current and future plans, the U. S. Bureau of Public Roads and the State of Illinois Division of Highways, together with local public officials, worked out the following solution:

An intergovernmental, cooperative program has been set up. Its name is the Chicago Area Transportation Study.

This Study started in November 1955 and is to run for approximately three years under a total appropriation of $1,850,000. The U. S. Bureau of Public Roads allotted 50 per cent of the total, the State of Illinois Division of Highways 25 per cent, the Cook County Highway Department 12.5 per cent, and the City of Chicago 12.5 per cent. The Study was organized under the following Policy Committee:

R. H. Harrison, Division Engineer of the U. S. Bureau of Public Roads; R. R. Bartelsmeyer, Chief Highway Engineer of the Illinois Division of Highways; William J. Mortimer, Superintendent of Highways of Cook County's Highway Department; and George DeMent, Commissioner of Public Works of the City of Chicago.

All told, the Study will cover *all* territory within about a 30-mile radius from the "Loop" and wholly within Illinois. The Study Area contains about 1,400 square miles and nearly six million people. It includes the predominant Chicagoland "commutershed."

Administered under the State of Illinois, the Study has as its director, J. Douglas Carroll, Jr. Although nearly 115 other U. S. cities have had similar studies made, this is, by far, the largest of its kind ever undertaken. Illinois counties lying partially within the Cordon Line — Lake, DuPage, and Will Counties — are also cooperating with the Study.

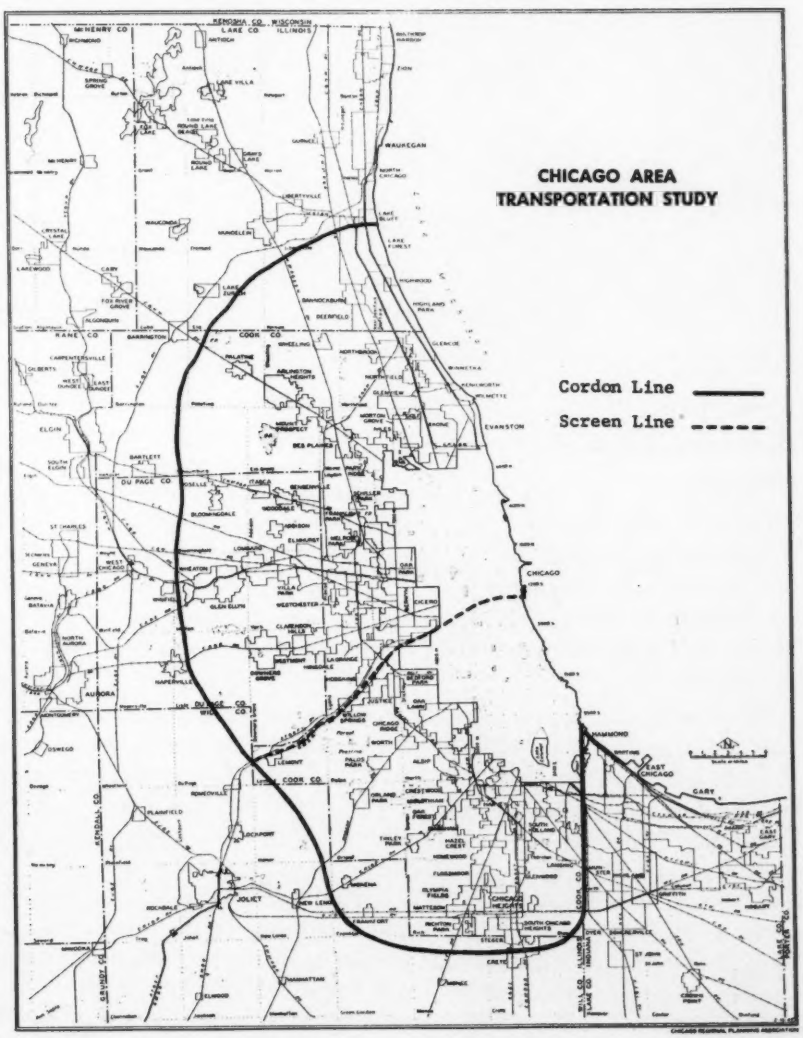
The facts for this Study will be gathered directly from the source—the traveler. This information will be complete by the Fall of 1956. As rapidly as possible, the information will be coded and processed so that preliminary findings will be available in 1957 and final reports prepared by 1958.

One feature of this factual survey is that it will not become out-of-date. Rather, the information will be kept current from year to year and will be available for continual use by all public officials.

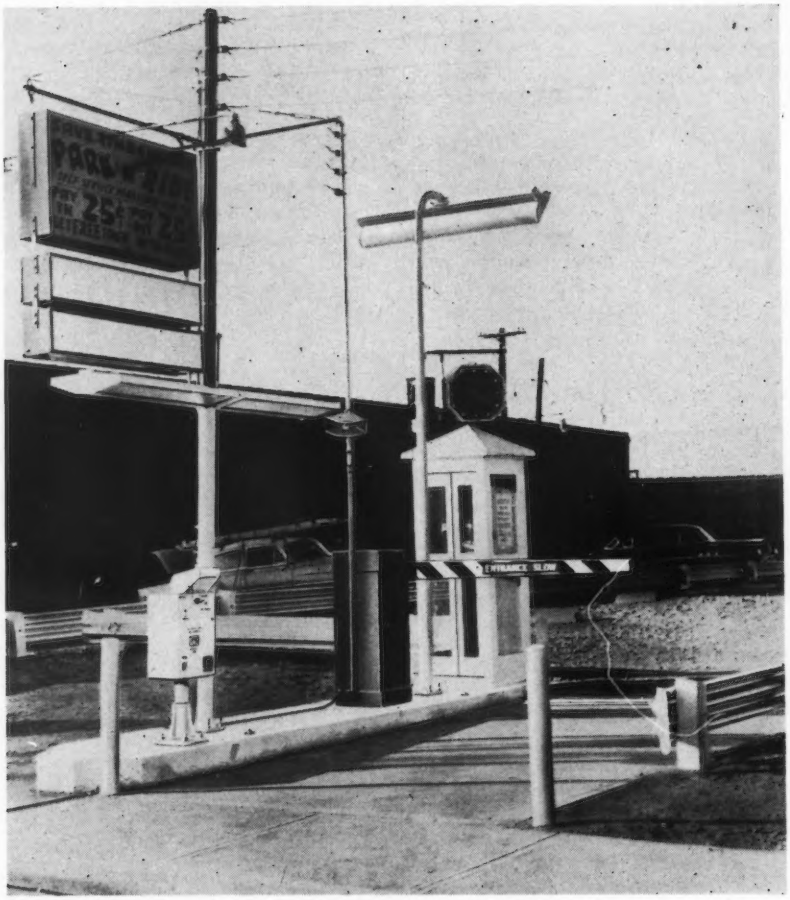
Such a study provides the firm foundation upon which sound, forward-looking plans can be developed for improved transportation facilities. Planning will include public as well as private transportation facilities—buses, rapid transit, highways, and roads.

In the Study Area described above and depicted on the accompanying map, about 60,000 dwelling places will be visited by employees of the Study during the period from April 16-Oct. 15, 1956. These employees will visit householders strictly for the purpose of obtaining travel information. They will bear identification cards with them at all times and their visits will be preceded by a letter to the dwelling informing the householder of the coming visit.

Those to be interviewed in their homes have been selected by sampling techniques from 1,200,000 addresses supplied by the Commonwealth Edison Co. and the Public Service Co. of Northern Illinois. One house in every 30 will be chosen. By previous agreement, those interviewed will not be asked their names for the Study. Likewise, nearly 9,000 truck owners or operators and a cross-section of taxi drivers will be interviewed to record the travel pattern of their vehicles. Finally, non-residents entering the Study Area will be interviewed at the boundary ("Cordon Line" shown on the map).



# Strictly Business



## Automatic Gates Delivers Recorded Message

Two brand new operational features marked the recent opening of Park 'n Ride self-service carpark lot in Covington, Kentucky, by Willis Vance of Ad' Vance'd Parking Lot Management Company, Cincinnati.

The lot was set up for the convenience of bus commuters to Cincinnati. The commuter, on payment of a quarter into the coin-operated Western Railroad Supply gate installation, gets in return one free bus token for the ride into Cincinnati's Dixie Terminal and admission of his car into the lot. On his return to the lot, the commuter pays a quarter or two bus tokens before the automatic gate allows his car to depart.

One of the new features of the automation setup is that the concrete island on which the gates are mounted is preformed and portable. This not only eliminates high installation costs but will greatly simplify movement if and when the lease expires. The entire installation can be picked up by an ordinary tow-truck crane and transported to another site in a matter of minutes.

The second featured innovation is a loud speaker which delivers a recorded message to each inbound customer when coins or keys actuate the remote control. The message instructs the commuter on parking and locking his car, using his free token for the bus ride and directions on where to board the express bus to Cincinnati from the Covington terminal, only one block away.

*(Continued on page 407)*

D. O. OPSTAD,
*General Sales Manager,*
Reflective Products Division, Minnesota Mining & Mfg. Co., St. Paul 6, Minnesota.

An open letter to

# HIGHWAY ENGINEERS

**Here is another message in the new series of advertisements that tells the public what you are doing to improve existing roads and make them safer.**

**We know you agree this is a story that bears repeating. For the need to modernize *today's* roads is all too often overshadowed in the public mind by talk about the superhighways of tomorrow.**

**This ad is designed to help you support *your* modernization program. It will appear in the June 22 issue of U.S. News & World Report. It will again acquaint leaders in government, business and finance with the pressing need to improve existing streets and roads *now.***

**Notice how the headline points up increased safety today—while we build tomorrow's super-safe highways. Notice in the body copy the frank appeal for support for your plans.**

**We sincerely believe this series of ads will help you get it.**

**Look for the current message in U.S. News. Show it to your associates. It is the kind of public relations campaign that will give you solid, practical aid to help complete your program.**

D. O. Opstad

***P. S.*** **Many public officials and traffic engineers already have requested reprints. Can you use them?**

**Reprints of this advertisement are available for use by your office in letters or other mailings. Write, stating number of reprints desired to: D. O. Opstad, Reflective Products Division, Minnesota Mining & Mfg. Co., Dept. GS-66, St. Paul 6, Minnesota.**

## *While super-safe roads are being built for tomorrow...*

# highway engineers are making today's roads safer!

Your night driving is *twice* as hazardous as your driving by day. For two-thirds of all traffic fatalities happen at night . . . when only one-third of the traffic is on the road!

Tomorrow's superhighways will help—immeasurably. But right now . . . today . . . highway engineers are making your nighttime driving far safer. They are installing new reflective road signs that never hide in the dark. Night and day they show *exactly the same* shape, color, and message—from any angle, in any weather, from as far as ½ mile down the road!

*But much more needs to be done!*

Funds to speed road modernization are urgently needed by your community and state. *You can help.* Write to your mayor, county commissioner or governor. Let them know you stand behind all efforts to make today's streets and highways safer. The plans you support today may save your life tomorrow.

When you see traffic signs of vivid, durable "Scotchlite" Reflective Sheeting (in any weather, from far down the road, they show exactly the same shape, color and message by night as by day), you know that you and your family are getting maximum nighttime driving safety for your tax dollar.

3M

The term "Scotchlite" is a registered trademark of Minnesota Mining & Mfg. Co., St. Paul 6, Minn. General Export: 99 Park Avenue, New York 16, N.Y. In Canada: P.O. Box 757, London, Ontario.

## Yale Bureau of Highway Traffic Graduates Thirty-One

Thirty-one men have been awarded Certificates in Highway Traffic by Yale University's Committee on Transportation, according to Fred W. Hurd, Director of Yale's Bureau of Highway Traffic.

These graduates join 365 engineers in the field who have completed the one-year course offered to graduate engineers interested in a professional career in highway traffic.

The Bureau of Highway Traffic course covers such matters as the basic theory and practice of traffic regulation, design, planning and administration, and also deals with problems of safety. Graduates of the Bureau of Highway Traffic are actively engaged in solving street and highway congestion and accident problems.

Many of the new graduates have returned to former positions. Three of them have positions in the urban traffic engineering offices in Detroit, New York City, and New Orleans. Five graduates have entered new positions in urban traffic engineering offices in Houston, Evansville, St. Paul, Baton Rouge, and Nashville.

Eight graduates have gone into planning and traffic engineering divisions of State Highway Departments in Idaho, South Carolina, Connecticut, Vermont, Arkansas, Illinois, and Nebraska. Nine went to positions in the field of highway traffic in such countries as Australia, The Netherlands, Sweden, Finland, Philippines, Switzerland, and Austria.

Of the remaining graduates, one has entered organization work, one authority work, three consulting work, and one will return to the Department of the Army.

The following received certificates:

Jack Artale—Highway Designer, Goodkind and O'Dea, Consultants, Bloomfield, New Jersey.

Jack Berman—Assistant Staff Director, National Committee on Urban Transportation, Washington, D.C.

Eugene Burbidge — Idaho Department of Highways, Boise, Idaho.

Vincent Cangiano—Highway Engineer, P. W. Genovese and Associates, New Haven, Connecticut.

Joseph Chronister — Traffic Engineer, City of Baton Rouge, Louisiana.

Gerald Cicetti—Civil Engineer, Howard, Needles, Tammen and Bergendoff, New York, New York.

William Crockett — Associate Traffic Engineer, S.C. State Highway Department, Columbia, South Carolina.

Kenneth Crowley—Assistant Highway Planning Engineer, Port of New York Authority, New York, New York.

Thomas Deen—Senior Assistant Traffic Engineer, City Hall, Nashville, Tennessee.

Josef Dorfwirth—Assistant, University of Technology, Technische Hochschule Wien, Vienna, Austria.

Earnest Elliott—Assistant Highway Engineer—Traffic, Connecticut Highway Department, Hartford, Connecticut.

Anthony Freed—Assistant Traffic Engineer, City of Detroit, Detroit, Michigan.

Earl George—Assistant Traffic Engineer, City of New Orleans, Louisiana.

Henry George — Divisional Engineer, Traffic and Location Division, Country Roads Board, Victoria, Australia.

Keith Graham — Assistant Engineer, Traffic Engineering Section, Department of Roads and Irrigation, Lincoln, Nebraska.

F. Ture Grahn—Civil Engineer, Royal Board of Roads and Waterways, Kungl. Vag-Och Vattenbyggnadsstn, Stockholm, Sweden.

Robert Jaffe—Traffic Engineer, City of Evansville, Indiana.

R. Earle Johnston—Traffic Service Engineer, Department of Main Roads, Sydney, N.S.W., Australia.

Gerard Junker—Civil Engineer, Jean-Louis Biermann Consulting Engineer, Lausanne, Switzerland.

Charles Knapp—Assistant Traffic Engineer, State Highway Department, Montpelier, Vermont.

John Knee—City Engineer, Town Hall, Melbourne, Victoria, Australia.

Robert Peterson—Assistant Traffic Engineer, Traffic Engineering Department, St. Paul, Minnesota.

Burton Rudy—Assistant Highway Engineer, Traffic Division, State Highway Department, Hartford, Connecticut.

Dominador Santos — Civil Engineer, Programming and Planning Division, Bureau of Public Highways, Manila, Philippines.

Robert Schwarz—Captain, USA, Office of the Chief of Transportation, Department of the Army, Washington, D.C.

Lasse Seppovaara—Civil Engineer, TVH, Helsinki, Finland.

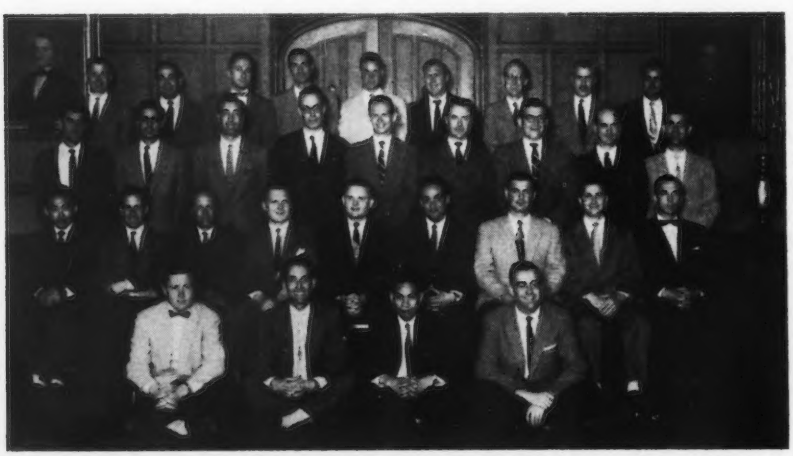
Johannes van den Berg—Engineer, The Hague Public Works Department, The Hague, Netherlands.

Frank Watson—Traffic Signal Engineer, Department of Transportation and Traffic, Houston, Texas.

George Wickstrom — Assistant Civil Engineer, Department of Traffic, New York, New York.

Henry Yamanaka—Illinois Division of Highways, Chicago, Illinois.

James Yarbrough—State Highway Department, Division of Statistics and Analyses, Little Rock, Arkansas.



**FIRST ROW—Deen, Chronister, Santos, Yarbrough**
**SECOND ROW—Yamanaka, Junker, Seppovaara, Dorfwirth, Crockett, Cicetti, Schwarz, Watson, Elliot**
**THIRD ROW—H. George, Berman, Rudy, van den Berg, Wickstrom, Grahn, Crowley, Knee, E. George**
**FOURTH ROW—Freed, Artale, Jaffe, Peterson, Graham, Burbidge, Knapp, Johnson, Cangiano**

*(Continued from page 404)*

## Variety of Highway Torches Available

Price decreases of 15 to 20% on its entire line of highway torches have been announced by R. E. Dietz Company, manufacturers of torches, kerosene lanterns, and automotive lighting equipment.

The decreases are made possible by changes in manufacture which have improved efficiency in production—coupled with expanding volume in construction, highway, municipal, and overseas markets.

Dietz Company is now providing three weighted bottom torches that hold 110 ounces of kerosene each. The largest capacity torches on the market, they will burn up to 55 hours with one filling. All torches in the Dietz line continue to be of 20-gauge steel; seams are tightly double-rolled; and joints are cemented leakproof.

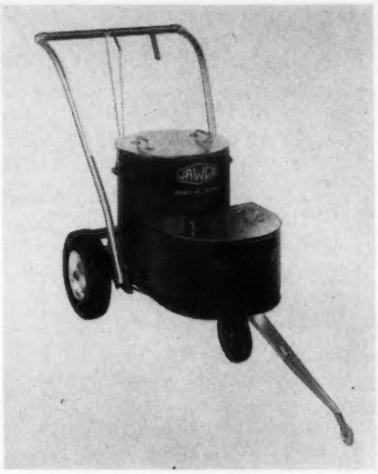
The unweighted, flat base torch in the Dietz line features a weather-guard cam-lock burner that can be removed at the twist of the hand. It is held by a ring guard attached to the body of the torch so the burner cannot be lost.

For more information, write to R. E. Dietz Company, 225 Wilkinson Street, Syracuse, New York.

## Heavyweight Traffic Liner Developed

JAWCO Products Corporation has announced the development of a new Line Painting Machine, the JAWCO Heavyweight. In limited production this year, it incorporates all the features of the well known JAWCO Lightweight,

*See illustration in next column.*



and has other new important features. The removable paint tank holds ten gallons of paint. Paint flow has been increased four times over the JAWCO Lightweight making possible higher operating speeds without air pressure.

This machine is hand propelled with gravity feed and brush application. Applicator brushes are readily interchangeable and are available in 4, 6 and 8-inch widths.

## LOOKING AHEAD

**AUG. 28-31—WINNIPEG, MANITOBA, CANADA**
Annual Meeting, American Association of Motor Vehicle Administrators, Royal Alexandra Hotel.

**SEPTEMBER 17-20—ST. LOUIS, MISSOURI**
Annual Meeting, American Transit Association, Jefferson Hotel.

**SEPTEMBER 17-20—DENVER, COLORADO**
61st Annual Convention of the International Municipal Signal Association, Cosmopolitan Hotel.

**SEPTEMBER 17-19—MACKINAC ISLAND, MICH.**
4th National Highway Conference of County Engineers and Officials, American Road Builders' Association, Grand Hotel.

**SEPTEMBER 17-21—BOSTON, MASS.**
National Technical Conference, Illuminating Engineering Society, Hotel Statler.

**SEPT. 25-28—SAN FRANCISCO, CALIF.**
Annual Meeting of the Institute of Traffic Engineers, Mark Hopkins Hotel.

## Course on Simulation To Be Held at UCLA

Recent work by several research agencies has shown that traffic flow problems may be advantageously attacked by simulation* using high speed computers.

*When an engineering system is so complex that it may be unfeasible or uneconomical to investigate the real system by controlling its parameters and measuring the resulting behavior, the engineer may choose to study the system by simulation. To do so he constructs a replica of the operational characteristics without any attempt of outward physical resemblance to the real system. For example the flow of heat in a mechanical system may be investigated by studying the flow of current in an electrical system. This is a special case of simulation by substituting one physical system for another. In the general case the simulator consists simply of a set of rules of behavior which are applied in an appropriate sequence.

To familiarize traffic engineers with the concepts and methods involved, the Institute of Transportation and Traffic Engineering of the University of California, with the cooperation of the Institute of Traffic Engineers, will present a two-week course on Simulation and Theory of Traffic Flow. This course will be conducted on the Los Angeles (UCLA) campus of the University of California, September 10 to 21, 1956. These particular dates have been selected to permit traffic engineers from distant points to attend the course on their way to the annual ITE Meeting in San Francisco the following week.

An Advisory Committee has been appointed to assist in the planning of this course. The members of this committee are Joseph E. Havenner, Vice President of ITE, Chairman; Lloyd M. Braff, City of Los Angeles; Edward M. Hall, City of San Diego; Alexander L. Hutchison, California Division of Highways; Guy D. McDonald, County of Los Angeles; and Daniel L. Gerlough, ITTE, secretary.

While this course is designed primarily for traffic engineers from larger agencies, any interested engineer may apply for enrollment. In planning the course it is being assumed that the students will have *no* prior knowledge of the operation of high-speed computers. Students will be presumed to be engineering graduates. Instruction will include lectures, laboratory periods, demonstrations, and outside assignments. Ample opportunity will be provided for consultations between student and instructor. A sample day may be made up as follows:

Morning: Three 50-minute lectures

Afternoon: Two-hour laboratory period
One-hour period for consultation and study.

Evening: Reading or problem assignment

The following is a brief outline of the material to be covered:

1. Background material necessary for the understanding of computers
2. Description of various types of computers available
3. Demonstration of several computers
4. Evaluation of various computers in relationship to various applications
5. Programming and coding for digital computer
6. Preparation of traffic flow problems in forms suitable for computer simulation or theoretical analysis
7. Generation of random traffic by a computer
8. Summary of theoretical relationships presently available for traffic flow problems
9. Linear programming and its application to traffic problems.

The instructional staff for this course will be composed of members of ITTE staff, authorities from other universities and research agencies, and practicing traffic engineers. A detailed syllabus is being prepared as a text during the course and as a reference book after the course is complete.

The UCLA campus is located at Westwood Village in the western portion of Los Angeles, approximately five miles from the beaches at Santa Monica. There are several motels and small hotels in the vicinity. Persons submitting advance registration applications will be furnished lists of suggested lodgings. Ample restaurants are available.

The fee for the course will be $100, including all course materials. Persons interested in this course may obtain advance registration forms by addressing requests to:

INSTITUTE OF TRANSPORTATION
AND TRAFFIC ENGINEERING
UNIVERSITY OF CALIFORNIA
LOS ANGELES 24 CALIFORNIA

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## POSITIONS AVAILABLE

### FLORIDA STATE ROAD DEPT.

TRAFFIC ENGINEERS

GRADE 23 — Performs difficult traffic engineering — writes reports, develops standards — designs, redesigns new and old facilities, responsible charge of traffic engineering functions.

GRADE 21 — Conducts O&D surveys — signs, signals and marking studies — intersection redesign — new geometric design — develops parking and transportation reports.

GRADE 19 — Assists in geometric design of highways, O&D studies, signs, signals and marking studies— routine reports, analyzes data, etc.

*Salary & Minimum Requirements:*

Grade 23—$480-$600 per month—college graduate plus 5 years experience plus professional registration

Grade 21—$440-$525 per month—college graduate plus 3 years experience

Grade 19—$400-$500 per month—college graduate plus 1 year experience

Starting salaries within brackets commensurate with experience and ability.

*Write:*
Frank Giles
Director of Personnel
State Road Department
Tallahassee, Florida

---

### DETROIT, MICHIGAN

TRAFFIC ENGINEERS

Assistant Traffic Engineer—Graduation from an accredited engineering college, and some experience. Minimum age limit —23. Salary—$5692 to $6468.

Senior Assistant Traffic Engineer—Graduation from an accredited engineering college and considerable experience. Minimum age limit—24. Salary—$6732 to $7599.

*For information, write:*
Detroit Civil Service Commission
612 City-County Building
Detroit 26, Michigan

### CITY OF LOS ANGELES, CALIFORNIA

**Traffic Engineering Assistant**

Graduation from a recognized engineering college or university, or possession of an Engineer-in-Training Certificate issued by the California State Board of Registration for Civil and Professional Engineers is required. College seniors may file.

*Salary:* the current range is $417 to $516 per month.

Application and filing fee of $1.00 may be filed in Room 5, City Hall, Los Angeles, until further notice.

---

### CITY OF SAVANNAH & COUNTY OF CHATHAM, GEORGIA

DIRECTOR, DIVISION OF TRAFFIC ENGINEERING

The Metropolitan Planning Commission, with responsibility in Savannah and Chatham County, is looking for a qualified man to assume responsibility for traffic engineering. The position would be that of Director, Division of Traffic Engineering.

Applicants should possess some experience and should have completed one year of graduate study in traffic engineering, or its equivalent. A beginning salary of $8,000 is authorized, depending on qualifications.

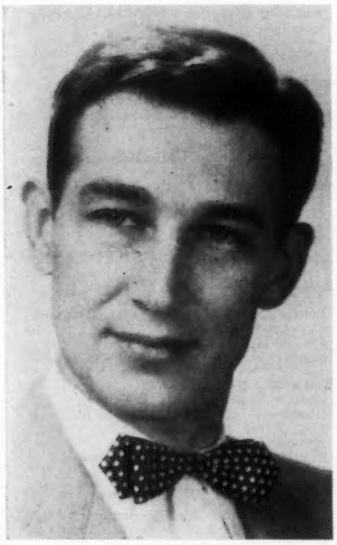
For further information and application forms, write: Metropolitan Planning Commission, City Hall, Savannah, Georgia.

**Send That Technical Paper to Headquarters NOW!**

# New Appointments

## Angell Moves to Wichita, Kansas

James E. Angell (Jr. Mem., ITE) moved to Wichita, Kansas, in March to accept the position of Traffic Engineer for the City of Wichita.



*James E. Angell*

During the past three years Mr. Angell served as Senior Assistant Traffic Engineer for the City of Indianapolis, Indiana. His career in traffic began during his junior and senior years at Purdue University where he worked part-time for the Joint Highway Research Project under the direction of the Indiana State Highway Commission.

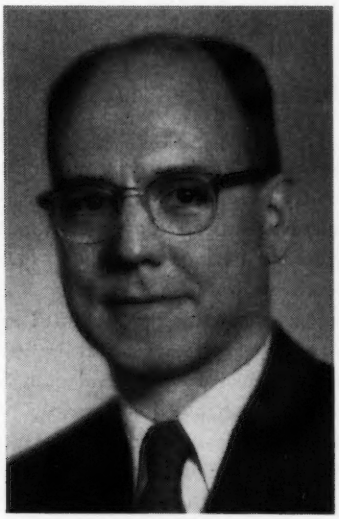
After graduation from Purdue (BSCE, June 1952), transportation in another area — that of railroads — drew him to Mattoon, Illinois, where he was Assistant Engineer for the New York Central Railroad. However, since auto travel is more flexible than that of train, Jim decided that Traffic Engineering was the field for him. He accepted the post in Indianapolis in June 1953.

A native of Ohio, Jim served in the Army Air Force during World War II. After his discharge in 1945, he attended Northrup Aeronautical Institute in California, and entered Purdue in 1948.

Hobbies which Jim and his wife, Barbara, pursue are photography, record collecting for their "medium fi" and bridge.

## City Managers' Association Appoints Orin Nolting

Orin F. Nolting, assistant director of the International City Managers' Association for the past 27 years, will become



*Orin F. Nolting*

executive director of the Association on July 1, according to Russell E. McClure, president of the Association and city manager of Corpus Christi, Texas. The appointment was made by the executive board of the Association at a meeting in Chicago in March. He succeeds Clarence E. Ridley who has been executive director of the Association since 1929 and who will retire on June 30, 1956.

The Association was founded in 1914 when less than a score of cities had adopted the council-manager plan. Nearly 1,400 cities and counties in the United States and Canada now operate under the council-manager plan. The Association's activities include the conduct of the Institute for Training in Municipal Administration which was established in 1934, the publication of *The Municipal Year Book* since 1934, and the publication of the monthly journal *Public Management,* now in its 38th year.

Mr. Nolting received an A.B. degree in political science from the University of Kansas in 1926, a master's degree in public administration from Syracuse University in 1929 and also did gradu-

*(Continued on page 410)*

## Fleming Named Transit Manager

Walter K. Fleming (Assoc. Mem., ITE) has been named manager of the Richmond division of the Virginia Transit Company, according to an announcement by Kenneth A. Bradshaw, vice president and general manager. Fleming succeeds Lee F. Davis who has resigned to accept a position as vice-president of the Central National Bank.

*Walter K. Fleming*

Fleming has had many years of experience in the traffic and transportation fields. He was first associated in 1927 with Burton W. Marsh, of Washington, D.C. Later, he became a consultant for several transportation companies in the East. In 1945, he was engaged by the Virginia Transit Company as a traffic consultant and shortly thereafter was appointed Superintendent of Traffic and Schedules. In 1953, Fleming was appointed assistant manager of the Richmond division. He was recently elected a director of the Virginia Transit and Portsmouth Transit Companies.

Fleming is serving on various committees of the American Transit Association. He was selected to attend the Staff College of Civil Defense at Olney, Maryland, as one of Richmond's appointees to study highway traffic control. A native of Allegheny County, Pennsylvania, he attended Carnegie Institute of Technology and Thiel College, where he was graduated with an A.B. degree.

The Flemings have two daughters and are members of the First English Evangelical Lutheran Church in Richmond.

## May Accepts Appointment at Michigan State University

Adolf D. May, Jr. (Jr. Mem., ITE), has accepted an Associate Professorship at Michigan State University effective July 1 of this year. He will be responsible for undergraduate and graduate courses in the field of traffic and transportation in the Civil Engineering Department, as well as participate in the newly-formed Highway Traffic Safety Center. This Traffic Center is directing its efforts in five fields: college courses, conferences and work shops, field services, research projects, and information services.

*Adolf D. May, Jr.*

For the past four years May has been teaching at Clarkson College of Technology and was in charge of undergraduate and graduate courses in highway and traffic engineering and soil mechanics. In addition to teaching duties, he was on the Curriculum Committee and the College Planning Committee.

Since June, 1955 May has been the Assistant Executive Secretary of the Institute of Traffic Engineers. He worked full time in New Haven last summer and on a part-time basis since last September. In addition to assisting in all phases of Institute work he has been the Managing Editor of TRAFFIC ENGINEERING magazine. Effective September 1, Mr. May will resign from his duties as Assistant Executive Secretary of the Institute.

Previous to his affiliation at Clarkson and with the Institute he taught and participated in research work at Iowa State and Purdue University. He received his M.S.C.E. from Iowa State in 1950 and his doctorate degree in 1955 from Purdue University.

In addition to his being a junior member of the Institute, Mr. May is active in the Highway Research Board, American Society for Engineering Education, honorary research society of Sigma Xi, and Tau Beta Pi honorary scholastic society. He has presented papers before the Highway Research Board, American Association of State Highway Officials and the Purdue Road School.

### NOLTING APPOINTED

*(Continued from page 409)*

ate work at the University of Chicago. He is the author of numerous special reports and articles in the field of municipal administration. In addition to his Association work, he is secretary of the National Committee on Urban Transportation which was created in 1954. He is a member of the American Society for Public Administration, National Municipal League, Royal Institute of Public Administration (London), and the Citizens' Board of the University of Chicago.

In 1953 he was the delegate of the American Committee for International Municipal Cooperation to the XI Congress of the International Union of Local Authorities at Vienna, Austria. He prepared the report for the United States on the main subject of the conference. Mr. Nolting is now a member of the executive committee of the American Committee for International Municipal Cooperation.

Before joining the Association's staff in 1929, Mr. Nolting had been secretary of the Municipal Reference Bureau at the University of Kansas and during the time he attended Syracuse University he was a teaching fellow in American government and secretary of the Municipal Research Commission.

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## Membership Applications

**APPLICATIONS FOR TRANSFER**

**McCANDLISS, Alfred N.**
Safety and Traffic Engineer
Department of the Army, USA
7822 Army Unit, Garmisch Detachment
APO 172
New York, New York
April 30, 1956 for MEMBER grade

**ZRALEK, Robert L.**
Traffic Engineer
Bureau of Street Traffic and Parking
Room 709, City Hall
Chicago 2, Illinois
April 9, 1956 for ASSOCIATE grade

**NEW APPLICATIONS**

**BEEBE, Richard S.**
Traffic and Planning Engineer
Carl L. Gardner and Associates
1 North LaSalle Street
Chicago 2, Illinois
April 9, 1956 for JUNIOR grade

**BESCHENBOSSEL, Harlo P.**
Chief, Civil Defense Planning Section
U. S. Bureau of Public Roads
18th and F Streets, N.W.
Washington 25, D.C.
April 2, 1956 for ASSOCIATE grade

**BRADLEY, William W.**
Traffic and Planning Engineer
South Carolina Highway Department
753 Arbutus Drive
Columbia, South Carolina
April 18, 1956 for MEMBER grade

**CANGIANO, Vincent M.**
Design Engineer
Charles A. Maguire & Associates
1100 Turks Head Building
Providence, Rhode Island
May 9, 1956 for JUNIOR grade

**CHEATHAM, Earl F.**
Traffic Engineer
Orange County Road Department
Court House Annex
Santa Ana, California
April 23, 1956 for JUNIOR grade

**CROCKETT, William R.**
Associate Traffic Engineer
South Carolina Highway Department
South Carolina Highway Building
Columbia, South Carolina
May 10, 1956 for JUNIOR grade

**CROWLEY, Kenneth W.**
Ass't. Highway Planning Engineer
Port of New York Authority
Planning Department
111 Eighth Avenue
New York 11, New York
April 2, 1956 for JUNIOR grade

**GRAHAM, Keith W.**
Traffic Control Engineer I
Bureau of Traffic Engineering and Electrical Services
Room 804, City Hall
Milwaukee, Wisconsin
April 2, 1956 for JUNIOR grade

**JONES, Harold D.**
Roads Costs Engineer
Oregon State Highway Department
Highway Building
Salem, Oregon
April 2, 1956 for ASSOCIATE grade

**McLEOD, Thomas T.**
Student, University of California
Institute of Transportation and Traffic Engineering
Berkeley, California
April 19, 1956 for JUNIOR grade

**O'LEARY, Patrick J.**
Director, Bureau of Special Services
Department of Traffic
City of New York
100 Gold Street
New York 38, New York
May 2, 1956 for MEMBER grade

**PINNELL, Charles**
Instructor in Civil Engineering
Texas Technological College
Civil Engineering Department
Lubbock, Texas
April 19, 1956 for JUNIOR grade

**PLANTIN, Alfred**
Ass't. Traffic Engineer, Ill. Div. of Highways
160 North La Salle St., Chicago 1, Ill.
April 6, 1956 for ASSOCIATE grade

# Miscellanea-Wilson's Friend

## HENRY WEATHERS A STORM

by Bryan Wilson, (Mem., ITE)

Traffic Engineer, Wisconsin Division, AAA, Madison, Wisconsin

Henry Glausson, Traffic Engineer of Mule's Head, population 73,000, sat morosely on the high stool at the drawing board and stared glumly out of the little window of his office. Spring had arrived at 9:21 that very morning and the sun had come up amicably and unexpectedly, apparently determined to make amends for its many absences during the preceding winter. A shivering little blue bird perched on the bare, scrawny bush in the alley joyously heralded the new season with that wholehearted thankfulness usually exhibited by those, whether animal or man, with the least for which to be thankful.

But Henry noted neither the glory of the new-born season nor the melody of the valiant bird. His resentful eyes appeared to be fixed on some distant point in space, though actually reviewing his triumphs and defeats during the year that he had wrestled with traffic chaos in Mule's Head. In Henry's cynical judgment, it appeared that the defeats far over-shadowed the victories. Even when he had won, thought Henry, it was not by that unanimity of decision such as follows a clean knockout, but only by a meager majority of points so that even in winning he was as battered as his opponents.

Miss Willis, Henry's winsome secretary and fiance, came over and laid a newspaper clipping on the drawing board without words. Henry glared at her bitterly. She was the greater part of his troubles. But for her he could have shaken off his depression and perhaps even felt cheerful.

"Thank you!" said Henry, acidly.

Miss Willis didn't reply as she turned to her desk, her face cold; her beautiful, long-lashed eyes without warmth. "Women! Bah!" thought Henry, "Let a strange man show them a little attention and the past is forgotten. Their eyes go soft and smoky; their little mouths fall softly open in an innocent-appearing sensual slackness; their shapely little bodies turn to quivering jello!" Fortunately, Henry had discovered her perfidy in time, thanks to that handsome salesman who had shoved past him yesterday without a glance at him, greeted Miss Willis with a kiss on the cheek and hovered over her desk most of the remaining day.

Henry congratulated himself heartily for discovering the weakness of Miss Willis, though, strangely, he felt no elation. He sighed and glanced idly at the clipping. It was taken from the Mule's Head Times and entitled:

"LAST SEGMENT OF
TRAFFIC IRON CURTAIN
SOON TO BE IN PLACE

Were it not so tragic to the prosperity and general well-being of our beloved city, the latest antic of our expensive, imported chimpanzee, posing as traffic engineer of Mule's Head, would be merely ridiculous and, as such, probably laughed off by the good-natured people of this city. Since, however, the latest bar in the mad symphony of our addled traffic composer, namely, the Changing of McClellan Avenue to a one-way street in a southerly direction, means the utter stifling of our central business district, the stupidity of Mr. Glausson ceases to be a matter of mirth.

Only slightly less asinine is the ready acquiesence of our lame-brain Common Council to Mr. Glausson's Mad Hatter proposals. When business men in our central business district begin going into bankruptcy; when the assessed valuations of their properties are decreased to a fourth of their present values; when shopping centers surround us on all sides of the city, just outside the city limits; when the taxes of our residents are doubled in order for us to continue to live on our present scale; when the bread lines start forming and extending across the detestable one-way streets which will at last be known by every single inhabitant, including the honorable members of our Council, to be the basic cause of our ruin; then, friends and honored subscribers of this paper, let it be remembered that ye editor fought each encroachment of this hated one-way street grid with all the sincerity and fervor of which he was capable.

Since 1859 this paper has carried the banner of Mule's Head throughout the city and its extensive trade area. And it carried it proudly and with reverence. It has never ceased to sing the city's praises and it invited people not only to visit us for purposes of trade, but to move in and join us in our march to become the leading commercial city of this great state.

Alas! It is futile to issue any more such invitations! Not only is it practically impossible to get into our city, but the odds against ever getting out again are such that only the most intrepid would dare to buck.

The only parallel case of which we have record is that of West Berlin when the Russians threw up an iron curtain closing all land routes into the city. American ingenuity counteracted this by Operation Airlift, by which supplies were carried into the beleagured city. It may well be that the solution here will eventually require the use of this device. Since there will be no traffic possible, hence no parking demand, our extensive system of off-street parking facilities can be converted into landing fields. Perhaps, also, the roofs of our empty business buildings can be used for helicopter landings. All this shouldn't prove too expensive, since there will be no necessity of any but the Red Cross to enter the city, the planes being required only to remove the jobless inhabitants out so as to permit them a new start in some more fortunate municipality in which it is possible to drive around with freedom of movement and a choice of directions.

The horrible situation in which we now find ourselves can be alleviated only by quick, determined action on the part of the people of Mule's Head. The issue is clear—the decision simple. We offer you the choice between (1) the continued prosperity of the city WITHOUT Mr. Glausson and (2) the complete business ruin of the city WITH Mr. Glausson. Which do you choose? And pray that we haven't waited too long!"

---

Henry crumpled the clipping in his fist and threw it viciously at the waste basket, missing as usual. "That stupid, fatuous — ! I've a notion to go down to that skunk's office and twist his big, whiskey-stained nose plumb off his caricature of a face!"

"Henry, you forget that there is a lady present," reminded Miss Willis, coldly.

"You're darned right I do," shouted Henry with heat. "And I'm going to continue to forget there's a lady present, past or future! I'm off women for good. I take pleasure in releasing you from our unfortunate engagement as of this moment. I'd want a wife I could trust, not a shallow flirt that goes wild every time a stray salesman comes around and leans on her desk!"

"And I accept the release as of this moment with pleasure!" Miss Willis

shouted back. "I wouldn't want a husband so jealous that her only brother-in-law can't come in and tell her news of her only sister and two adorable little nieces. I'd have brought him over and introduced him but you sat there so mad and acted so busy and superior that I was afraid you'd insult him. I was ashamed to let him know what we are—I mean what we were to each other!" Whereupon, Miss Willis resorted to that completely feminine and always effective technique of weeping silently into her small handkerchief.

With the unconscious reaction of a foot flying up when the doctor strikes the edge of his hand to a point immediately below the kneecap, Henry found himself holding Miss Willis in his arms. Words of apology and self condemnation were pouring incoherently from his mouth and he was calling himself names not even dreamed up by the editor of the Mule's Head Times.

"Honey, I don't see how you can love an ill-tempered, ill-mannered bum like me! I just don't deserve to have the sweetest, truest little woman in the world!" declared Henry, the man.

"No, Henry, I don't think you do, but you're still the only one in the world for me," declared Miss Willis, the woman.

After due time Alice removed her lips and said: "Honey, you ought to write the man who wrote that nasty article a scathing letter telling him just what a mean and worm-like creep he is!"

"Why, honey," replied Henry, sniffing hungrily her fragrant hair," I'd forgotten all about him. It was that salesman of yours I really wanted to rough up. You see that editor has always been a fool and a lot of us have known it for some time. Now, after that pseudo-humorous article, everyone will know it!"

"Oh, Henry! You're so smart!" said Miss Willis, the woman.

"Yes, I guess I am at that," agreed Henry, the man.

# THE TRAFFIC TICKET


## By Walter Seymour

**Member, Detroit Bar Association**



*This article appeared originally in the October, 1952, issue of The Detroit Lawyer, official monthly publication of the Detroit Bar Association.*


A traffic ticket rattles around in a man's hand. He gets more worked up about it than if he'd shot his wife in the stomach. The violator who walks into your office with an earned $5.00 ticket, to demand that something be done, is more difficult to deal with than a client who has been slightly sued. He's going to take up a lot of time you can't bill him for, due to the microscopic nature of the transaction. And there isn't much you can do for him anyway except hold his hand and sympathize with him in his sorrow.

The guy's got that please-pass-the-revolvers attitude, and sings a song that sounds like the 3rd strain from Hernia. The officer said he done it when he didn't do it. His wife was in the car, and she says he didn't do it either, and will so testify. He displays a passion for detail about circumstances surrounding the alleged violation, together with a description of the way he drives, has always driven and did drive on this occasion, plus the way other people were driving all around him, frequently going off into tangents about previous violations he was accused of, their outcome and disposition, mostly unsatisfactory, and "he's not going to let them get away with it this time." So help him Hannah!

A ticket seems to generate within his soul the immediate desire to crusade for intelligent enforcement of all traffic laws. He is the eager messiah. You become, by his special dispensation, a 1-man grievance committee. Together the twain will reform existing regulations in the police department and recodify the ordinance. Not only that, but, with his enlightened advice and help, it'll be just like shooting a fish in a bathtub.

In the old days you might have helped. You'd pick up the phone, call the judge, tell him you had a guy in your office that had been good to his mother all his life, had never received a previous ticket, who was insulted by the officer, charged with a questionable, borderline violation, the total importance of which was nothing, and that this man insists on taking a day off from work and hiring you as his attorney to take up a lot of the judge's time in court, and that all in all for the common benefit the whole thing should be forgotten, adding a few judicious expressions about votes and elections. Oh yes, the old days. A lot of water has flowed under your bridge since then.

For the benefit of the brothers who haven't the time or inclination to read further, we can offer some quick, practical advice. You want to make the client happy, don't you? OK. Just say to him, "Look, Joe, leave this thing here with me and forget it." You shake hands, he goes out, you put it in the mail with a $5.00 bill. In this way you save approximately $25.00, figuring the time involved in chewing up a bunch of language about the ticket, the net result of which would only have been a recommendation that he pay the thing.

The alternative? Ordinarily we advise just sitting it out. And sympathy. Lots of sympathy. Don't try to justify the issuance of the ticket. Tell him he's been wronged. Agree with him. Say to him that the facts as presented by him show clearly that there was no violation. Of the police officer who issued the summons you can simply say, "How stupid can they get?" The man was there. He knows what happened doesn't he?

All right. You're sitting there nodding, holding his hand in sorrow over the injustice of it all. Good. Now we come to the meat of the thing, the reason for his entre, so to speak. He wants the ticket dismissed. The unseen handle up in the sky is supposed to be pulled, by you, his attorney.

Don't alarm the man by saying right off that nothing can be done. You've got to let him down easy. So your face is full of maybe. By no 2-way stretch of the imagination should he be allowed to feel that the mission can be accomplished, understand. But don't come right out and say that if you could get him out of this it would be the most sensational thing that's happend since Dr. Dafoe held up a hand instead of a finger to Mr. Dionne. You've got to time yourself, first by letting him know that it's improbable, then unlikely, then impossible. Finally like unscrewing the inscrutible. Mix in a little per se, persona non grata and ipso facto if he seems intelligent.

We haven't discussed the little matter of the fee. We aren't going to let you down easy. Right here we're going to let you have it. There ain't going to be any. He has already told you that he don't care what it costs, but you can take that with a dose of salts. He has said too, that "it isn't the $5.00, you know, it's the principle of the thing." $5.00 means no more to him than an arm or an eye. The quickest way of all to get rid of him would be to tell him you will have to charge him $50.00 to represent him in court. Don't do it. The loss of a client who may be getting a divorce or calling you from the jailhouse next week is serious.

Now, why is it that the ordinary traffic ticket can be such a mad and marvelous thing? The answer is, that outside of sending a check whereby you not only pay through the nose but automatically admit guilt, the only thing you can do is appear in court on the court date. The officer has told you to tell it to the judge. You can have a fair and impartial trial. All you lose, of course, is a day's work, and the punishment for that is three or four times the value of the ticket. Aye, there's the rub. You don't have to be a keen student of the dollar to figure it out. This creates that frustrating and hopeless feeling in the defendant's soul.

Another thing. If he goes to court he knows in his heart that the odds out of one hundred of winning the case could be counted on the fingers of a careless sawmill hand. His mind tells him he is going to be found not guilty, but his heart tells him differently. He hasn't heard from his liver. The last time we checked, the percentage of convictions for the entire State of traffic arrests was 97.4%. That was years ago. We haven't bothered to inquire again. A generous sample can be obtained by listening to a group of traffic cases being tried anywhere. How often does the judge turn to the officer and tell him he made a mistake? "The man wasn't speeding, officer. He says so himself." "You must be color-blind, officer. I don't believe the light was red." Then the little fairy prince tapped her on the shoulder and said, "Shall we dance?"

Why is the defendant found guilty? Frankly, because he should be. That's a shocking and arbitrary answer, but true. There are exceptional cases where the traffic cop is wrong, there will be and continue to be illegal tickets issued, but we can't soak up your valuable time discussing rare instances. Let's stick to the general. The misdemeanor has been witnessed, not only by an eyewitness, but a trained eyewitness who is fulfilling the duty of a public servant. When your client says to you, "The judge won't take my word, he'll take the police officer's word," he has indeed said a mouthful.

We come now to that expressive connotation, the "speed trap." A speed trap is any small community where the motorist receives a traffic ticket. You don't ever hear of big cities like Detroit being speed traps. It's the cross-roads village, always. The delightful defense, which in the mind of the defendant seems to bind the case with hoops of steel, is that he was "just going along with traffic." This is sometimes varied by the equally entrancing legalistic hypothesis that the officer was hiding behind a billboard. The latter is fascinating because it's the story of America. Everybody should be given a sporting chance, even when violating the law, and if the weather eye in the rear view mirror reveals nothing, our man has been euchred out of the square deal. It's like a body blow below the motorist's belt. The police do not call this sort of thing hiding around the corner, they call it "off-street observation," but whatever they call it, the traffic ticket addict compares it favorably to the secret police of red Russia.

Other "defenses," the total of which mean nothing but are bothersome and time-consuming to explain, are the following: the defendant wasn't hurting nobody; he didn't have a thing to drink; he didn't do it deliberately; he has a good traffic record; this is his first ticket; the policeman wasn't wearing a coat; his car wasn't identified with "police" in big letters; the policeman misspelled one letter of his name ("and if he made one mistake, he could make another, couldn't he, Counsel?"); the signs were hidden by trees; he didn't see the sign; the community is trying to raise revenue to build a new city hall; the cop was "hard up for a ticket" because he "hadn't filled his quota for the day;" and then again, repeat, the defendant wasn't hurting nobody.

The above repeated phrase strikes right at the heart of the traffic ticket problem. What puzzles so many defendants is why they can't make their own laws. If there's no traffic on the street and it's three in the morning, why in the world shouldn't he be allowed to go ten or fifteen miles over the limit? If he rolls up to a stop sign and there's nothing within a block in either direction, why should the wheels of his Chevvy cease their motion, when he can safely shift gears and mosey on across? What if the light did change to red before he completed the crossing? Cross-traffic didn't have time to start up yet. There was no possible danger of harming anyone.

The conclusion is, the traffic misdemeanor is technical by nature, almost in every case. Traffic laws are by their very nature arbitrary laws. You don't have to be a hazard on the street to deserve a ticket, you don't have to have an accident or come close to one. You've been stopped only on a technicality. That's what most people find it so hard to understand. The client says, "I wasn't driving reckless." Your ready answer should be, "You are not charged with reckless driving, my good fellow."

*Traffic laws are important. They must be enforced. The enforcement should be rigorous and uniform. Otherwise they'll be shoveling the bodies into trucks instead of picking up one at a time in an ambulance. The public can't be allowed when and where to comply with a law and when to ignore it. There are many drivers who aren't equal to such an occasion. All drivers should be able to drive on the theory that all other drivers are going to do the correct thing. We must be able to rely on compliance with the rules by everybody else on the street. Should enforcement cease, traffic would be a terrible mess. Even good drivers would slip into careless ways.*

So, while you sit there listening to his tale of woe, rolling your eyeballs toward the ceiling, and occasionally looking at the inside of your eyelids as though immersed in deep thought, keep in mind that the common traffic ticket, like the common cold, is a necessary evil and one about which little can be done.

# Section News

## CANADIAN SECTION

Excerpts from the Canadian Newsletter, Grant A. Bacchus, Editor.

*Toronto Group Meeting*

A dinner meeting of the Toronto and Area members was held on Wednesday, January 25th at the Diana Sweets Restaurant in Toronto and was attended by 44 members and interested parties. A report was heard on recent membership addition and observations at the H.R.B. meetings in Washington.

A very interesting and enlightening panel discussion was held on **"Access Control on Arterial Routes"** under the chairmanship of **Mr. W. J. Fulton,** Director of Planning and Design of the Ontario Department of Highways.

*Winnipeg News*

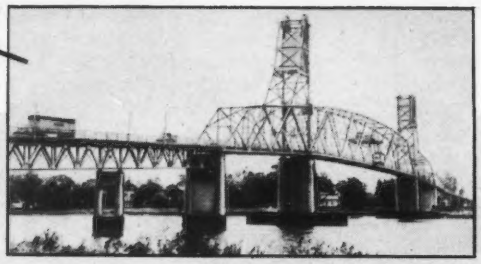
**Bill Finnbogason** has been appointed to the post of Traffic Engineer for the City of Winnipeg, replacing **Harry Burns** who vacated the post last December.

**Andy Sharp** has left his post as Traffic Engineer of Regina, Saskatchewan to become Assistant Traffic Engineer for the City of Winnipeg.

*Toronto News*

**Walter Q. Macnee** was privileged to speak at the Ontario Good Roads Association Convention held in Toronto recently. His subject was "Traffic Engineering in the Ontario Department of Highways."

**Hank Edens** has announced that he



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Like most other toll facilities in the U. S. the Burlington-Bristol Bridge specified Taller & Cooper equipment for dependable, tamper-proof audit and collection.

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is leaving Town Planning Consultants, Ltd., to accept a position with De Leuw Cather Co. of Canada Ltd. with offices in Toronto.

**Mr. E. F. Gillies** has been appointed as supervisor for Eastern Canada for the Reflective Products Group of Minnesota Mining & Mfg. of Canada Ltd., London, Ontario.

## MISSOURI VALLEY SECTION

A nice letter from **Dr. A. R. Lauer**, Professor of Psychology and Director of the Driving Laboratory at Iowa State College, reveals that he is quite busy, as usual, with his College work. **Doc** announces that Iowa State College will conduct an advanced Seminar in Driver Education during the week of June 25-29. We are very proud of the fine work being conducted by our Section Member.

The Section regrets that **John A. Swanson**, of the U.S. Bureau of Public Roads, has now moved to the Boston, Massachusetts area where he will undoubtedly affiliate with the I. T. E. Section in that locality. Missouri Valley's loss is New England's gain.

To offset the loss of our good member **John Swanson**, however, we note from the March issue of "TRAFFIC ENGINEERING", that **Rolla T. Fry** is now a new member with the State Highway Commission at Topeka, Kansas, **Ellis C. Henry, Jr.**, a new member, is with the St. Louis Traffic Division, **Dennis D. Kyrk**, is with the City of Oklahoma City, and **James H. Robinson**, a new member, is Director of the Office of Traffic Control for Oklahoma City. We welcome these four new members into the Missouri Valley Section.

The University of Missouri presented its Eighth Traffic Engineering Conference at Columbia, May 17-18. The Missouri Valley Section was one of the joint sponsors of this meeting.

LEON W. CORDER
Associate Editor

## INDIANA SECTION

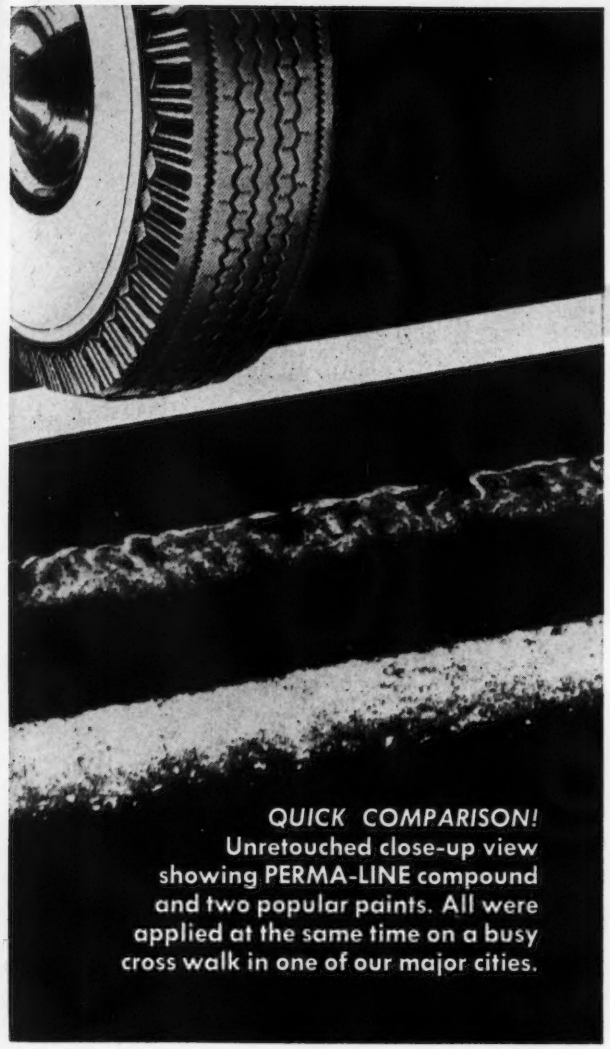
The following is a day by day report of the Traffic Engineers Sessions held at Purdue University.

Tuesday morning, April 3—

President **Neff** presided at the meeting and presented a paper titled, "Look To The Future". This paper gave an account of the early mass transportation in the city of Indianapolis, and a report of the Indiana Traffic Survey.

Mr. **Herbert B. Woodling**, Safety Engineer for Akron, Ohio was asked to report on the progress of his committee for the Institute of Traffic Engineers on the "Warrants for and Experiences with Yield Signs. A good discussion followed this report.

*(Continued on page 416)*



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*(Continued from page 414)*

Wednesday, April 4—

Vice-president **Bilby** moderated a panel composed of:

1. **Donald S. Berry**, Professor of Transportation Engineering, Purdue University.
2. **Forest H. Green**, Associate Professor Highway Engineering, Purdue University.
3. **W. F. Milner**, Traffic Engineer, Indiana Highway Department.
4. **Don E. King**, District Sales Engineer, G.E. Company, Electronics Division.
5. **George W. Howie**, Director of Public Utilities & Traffic, Cincinnati, Ohio.

The panel was asked to answer questions from the people attending the session. Considerable discussion was given to the radio control traffic signal system installed at Evansville.

Thursday morning, April 5—

President **Neff** presided and talks were given by Mr. **James B. Rudden**, Assistant Traffic Engineer, Baltimore, and Mr. **Joseph Barnett**, Assistant Deputy Commissioner in the Division of Engineering, Bureau of Public Roads.

Mr. **Rudden** described and explained the multi-million dollar resignalization program that the City of Baltimore is undertaking. He is doing the designing and engineering of this program.

**The officers of the Indiana Section are shown in the above photograph, from left to right: James B. Neff, President; William H. Bilby, Vice-President; and James H. Cox, Secretary-Treasurer.**

Mr. **Barnett**, who discussed the subject "Handling of Limited Access Problems on Interstate Roads" during the general sessions of the Road School on Wednesday afternoon, continued this discussion and conducted a question and answer session.

Following these talks, the Indiana Section conducted a short business session.

JAMES H. COX
Secretary-Treasurer

## SOUTHERN SECTION

*Minutes of March Meeting*

Chairman **Karl Bevins** called the meeting to order at the conclusion of the luncheon. He called on **Arthur M. White** for the annual report of the secretary which was accepted without objection. **Mr. Bevins** then reported on developments concerning the Special Awards committee which had been appointed at a previous meeting.

The Chair called for a canvass of the ballots for the Section officers for the following year. As a result of this canvass, the Chair declared elected for President, **Arthur M. White**; for Vice President, **William H. Mann**; for Secretary and Treasurer, **John T. Hanna.**

**Mr. White** then took the Chair. He called for nominations of program Chairman. He was requested to select the other members to serve with him on the committee and to notify **President White** of his selections.

In a discussion of location for the 1958 annual meeting of the Institute of Traffic Engineers, it was the consensus of the group that the annual meeting should be held somewhere in the southeastern states. It was agreed that the President appoint a committee to study the invitations and proposals of the various cities offering to act as host to the meeting.

W. H. MANN
Acting Secretary

*(Continued on page 418)*

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# Institute Affairs

**Board Meets in Denver May 25-26**

The Board of Directors met in Denver on May 25 and 26, with the assistance of the Inter-mountain Area of the Western Section in the matter of arrangements. A full agenda occupied the time of the Board members, and a complete report will be presented in the July issue. Many membership applications were considered, and in all probability the Institute has reached the 1000 mark by now.

**Annual Meeting Plans Progressing**

Under the chairmanship of Bob Glenn of the University of California, plans are well along for the Annual Meeting scheduled for September 25 to 28 in San Francisco. Vice-chairmen are Jerry O'Shea (California Division of Highways) and Ross Shoaf (City of San Francisco), while Arrangements Coordinator is Jay Czizek (City of Oakland). The Secretary-Treasurer is Bob Graver (California State Automobile Association), who doubles in brass as publicity man too.

A preliminary program will appear in the August issue, with the final program printed the following month. In the meantime, we will be printing various articles on California and the Bay Area, with the article in this issue by Paul Harding being the first.

The headquarters hotel will be the Mark Hopkins, on historic Nob Hill. This is the home of the "Top of the Mark," with its world-famous view of the Bay and the Golden Gate. The cable cars are still running — Fishermen's Wharf is offering its delectable seafoods —and San Francisco will live up to its reputation as one of the world's most fascinating cities.

Make your plans now to attend the 26th Annual Meeting, September 25 to 28, in San Francisco.

**Dolf May to Continue Magazine Help**

Dolf May, whose appointment to the staff of Michigan State University is announced in this issue, has agreed to continue his part-time services as Managing Editor of the magazine until September 1. This assistance by Dolf will be most welcome, especially since it comes during the actual time of moving from New Haven to Washington. Dolf himself will be moving from Potsdam to East Lansing early in June—so if things get a little confused and your mail doesn't get answered immediately, bear with us!

**Anne Leftwich Leaves Institute Staff**

Miss Anne Leftwich, known to many Institute members by virtue of her nearly eight years with the headquarters staff, has resigned as of May 31. After planning at one time to go to Washington with the office, Miss Leftwich has decided to stay in New Haven, which is her home. She will be sorely missed in the headquarters office.

Since Mrs. Donnellan, the very capable assistant, is also remaining in New Haven where her husband is doing graduate work in biophysics, the Executive Secretary will be the only staff member making the move from New Haven to Washington.

**McMonagle Article Appears in "American Highways"**

The April issue of "American Highways," published quarterly by the American Association of State Highway Officials, contains a very fine article by Vice-President Carl McMonagle entitled "Traffic Engineering in the Modern Highway Department." If anyone has any serious doubts about the proper relationship between traffic engineering and the other highway department functions of design, maintenance, planning and construction, then he should read Carl's cogent words on this subject.

**Highway Legislation in Congress**

Just because TRAFFIC ENGINEERING has not devoted many words to recently pending legislation in Congress does not mean that it is unimportant to traffic engineers. The truth of the matter is that our pubication lag (timewise, that is) is so great that any printed word in the magazine would be very much outdated by the time you read it.

ITE members and traffic people everywhere have followed the progress of the various bills with much interest. The daily press and the weekly news magazines have provided good coverage, and it is hoped that by the time this is published we will have a law and a highway program.

Traffic engineering faces a very real challenge in this program just as does every other phase of the highway business. Let's meet the challenge with our best efforts—individually and as an organization. We must not only build a highway system, but one that will provide "safe, convenient and economic transportation of persons and goods."

**Remember the Address — 2029 K Street NW, Washington**

This is the last reminder (until the next one) that all Institute mail (including mail for Dolf May) should be addressed now to Washington, not to New Haven.

The District of Columbia is referred to frequently by a friend of ours as the "district of confusion." It will be a very appropriate term for the Institute office for a time, undoubtedly, but with your patience and help we will make it.

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SECTION NEWS

*(Continued from page 416)*

## MIDWEST SECTION

Clipped from Midwest Items, Elizabeth Jackson, Editor.

*Midwest Chatter*

The **Frank Barkers** proudly announce a new addition to the clan. Geoffrey Alan weighed in at nine pounds at noon of March 12, 1956.

Sports fan **Dick "Tornado" Walons** feels that he is being discriminated against. Next meeting, featuring films of the 1955 World Series, falls on his birthday, and the Milwaukee trip, with baseball game, is to be on his wedding anniversary.

Late evening radio fans recently were startled to hear the familiar name of President **Ralph Michel** introduced by a local "disc jockey." **Ralph** was caught while out night clubbing with some visiting dignitaries.

You can't hardly beat that Park District gang to the punch. They had all their money collected and turned in for the coming Milwaukee expedition even before the trip was planned. Now, if only **Dick Fencl** will let them go.

We understand that the Midwest Section almost lost three members the other night when **Mac Johnson** stopped his car in the middle of the Congress Expressway to illustrate a point about reflectorized signs to **Mike Hartigan** and **Wilson Campbell.**

*Puzzle Corner*

A young traffic engineer employed by Chicago Transit Authority has a beautiful but dumb girlfriend living on the North Side, and a smart but not so beautiful girlfriend living on the South Side. He leaves his offiice at random times each day and goes to a State Street subway station (with his employee pass). There is a train to the North Side and a train to the South Side every 10 minutes; he stands on the center platform, and takes the first train that comes along, regardless of direction, spending the evening with that girlfriend. How does it happen that he spends 9 times as many evenings with the beautiful girlfriend as with the not so beautiful girlfriend?

## OHIO SECTION

The Ohio Section held its first meeting as an official state organization in Columbus, Ohio on January 27th. At this meeting the pro-tem officers were formally elected for the balance of the year:

The officers are: **Harold Eckhardt,** President; **George W. Howie,** Vice-President; **J. A. Carrothers,** Secretary-Treasurer.

Other actions taken at the meeting included the endorsement of an Ohio member for consideration for the District 7 nomination to the National Board of Directors.

President **Eckhardt** then appointed the following committees:

Membership: **George Howie,** Chairman; **Thomas Young** and **Leo Cafferetta.**

Legislation: **Robert Holaday,** Chairman; **James Musick** and **Herbert Woodling.**

Program: **Robert Kelly,** Chairman; **Eugene Barton** and **Benjamin Bowman.**

Social Committee: **Paul Robinette,** Chairman; **John Gallagher** and **Clyde Condrey.**

A discussion of the effect of the official formation of the Ohio Section on the programming of the Ohio State Safety Conference, Traffic Engineering Section meetings was discussed. It was agreed that the offer received from Mr. H. J. Hays, general manager of the Ohio State Safety Conference, that the conference be sponsored by the group representative of the Ohio Traffic Engineers be accepted. It was agreed that the Program Committee of the Ohio Section would be responsible for the development of the program for the 1956 meeting of the Ohio State Safety Conference in Cleveland.

It was announced that the total paid membership of the Ohio Section was now 24 members and 15 affiliates.

J. A. CARROTHERS
Secretary-Treasurer

## WESTERN SECTION

*ITE Annual Meeting*

Preparations for the annual I.T.E. meeting in San Francisco, September 25-28, are progressing at an accelerated rate.

Announcements of the Convention have been prepared and will be sent to each member of the I.T.E. in the very near future, but it would be a good idea to mark the dates September 25-28 on the calendar now.

The Hotel Mark Hopkins, high atop Nob Hill, will be the headquarters hotel. The facilities for rooms, meetings, banquets, etc., have been thoroughly reviewed and inspected, and should contribute materially to a successful meeting.

On September 24, which is Monday, the I.T.E. Board of Direction will meet, and the annual W.I.T.E. meeting will be held on that afternoon. The technical sessions will start on Tuesday and continue through Thursday, with the annual banquet being Thursday evening.

**Norm Kennedy** has been working diligently on the technical sessions. While the program is not yet firm enough to announce the specific speakers and topics, the themes assigned to each session indicate that they will be interesting as well as worthwhile.

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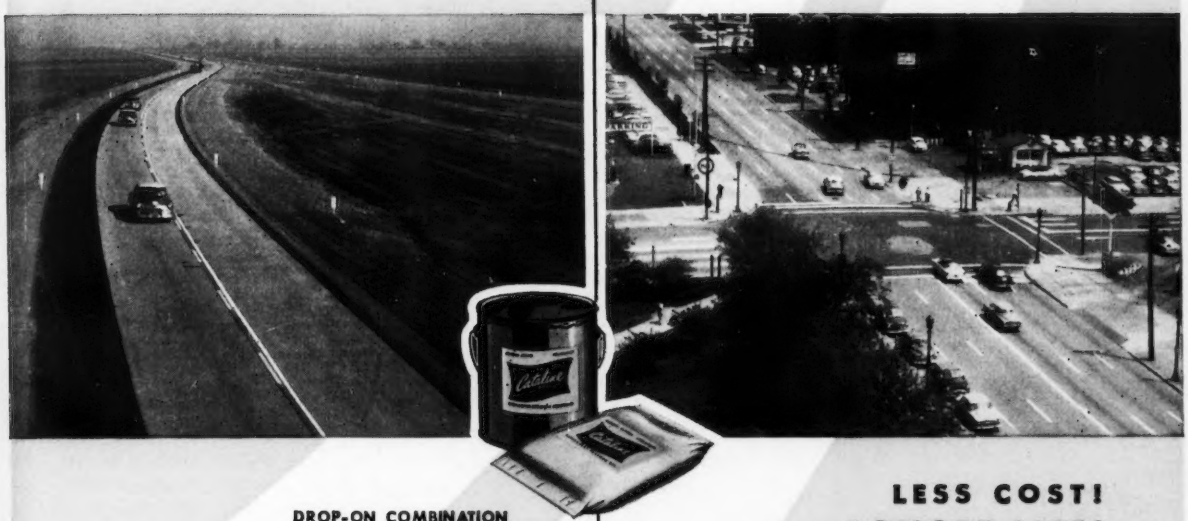

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## Purdue Plans Short Course August 6-10

A traffic engineering short course will be held at Purdue University, Lafayette, Indiana, August 6 to 10. Theme of the course will be "Engineering Aspects of Traffic Operation."

The instruction is designed for civil engineers from Indiana and nearby states who are interested in obtaining the most efficient use of existing street systems for traffic flow in urban and suburban areas. Special attention will be given to problems in the smaller cities, but traffic engineers in larger jurisdictions and in state service also will find the course valuable as a refresher and an opportunity to discuss new approaches to traffic problems.

The program includes studies of volume, speed, delay, capacity, and accidents. Also to be considered are traffic regulations, traffic signs and markings, design or signal systems, speed control, one-way streets, parking control, off-street parking, planning street systems, intersection design, and traffic engineering administration. Evening sessions will be devoted to round table discussions on individual traffic problems.

Instructors include Professors Don Berry and Harold Michael of the Joint Highway Research Project, Purdue; Professors Fred Hurd and Tom Seburn of the Yale University Bureau of Highway Traffic; Norman Kennedy, associate research engineer of the University of California; George Barton, traffic consultant at Northwestern University; Professor John Baerwald of the University of Illinois, and Carlton Robinson, traffic engineer of the Automotive Safety Foundation.

The course has been planned to serve as a pilot model for possible nationwide application later by the National Advisory Committee on In-Service Traffic Engineering Training. Further information may be obtained from Professor Don Berry, School of Civil Engineering, Purdue University, Lafayette, Indiana.

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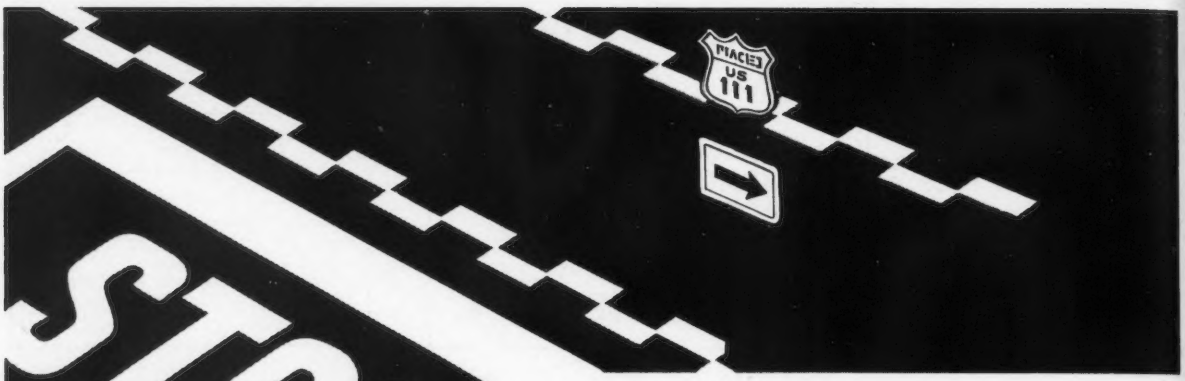


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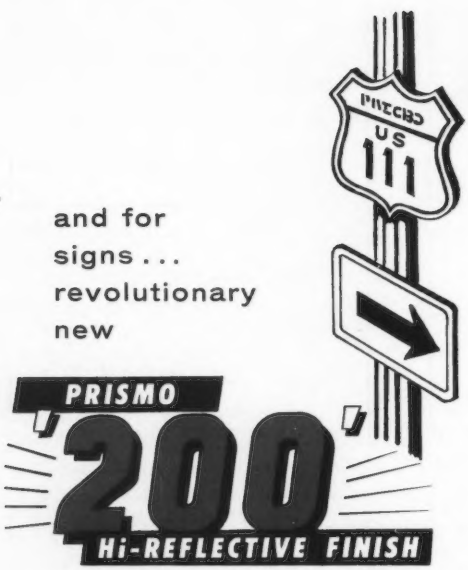


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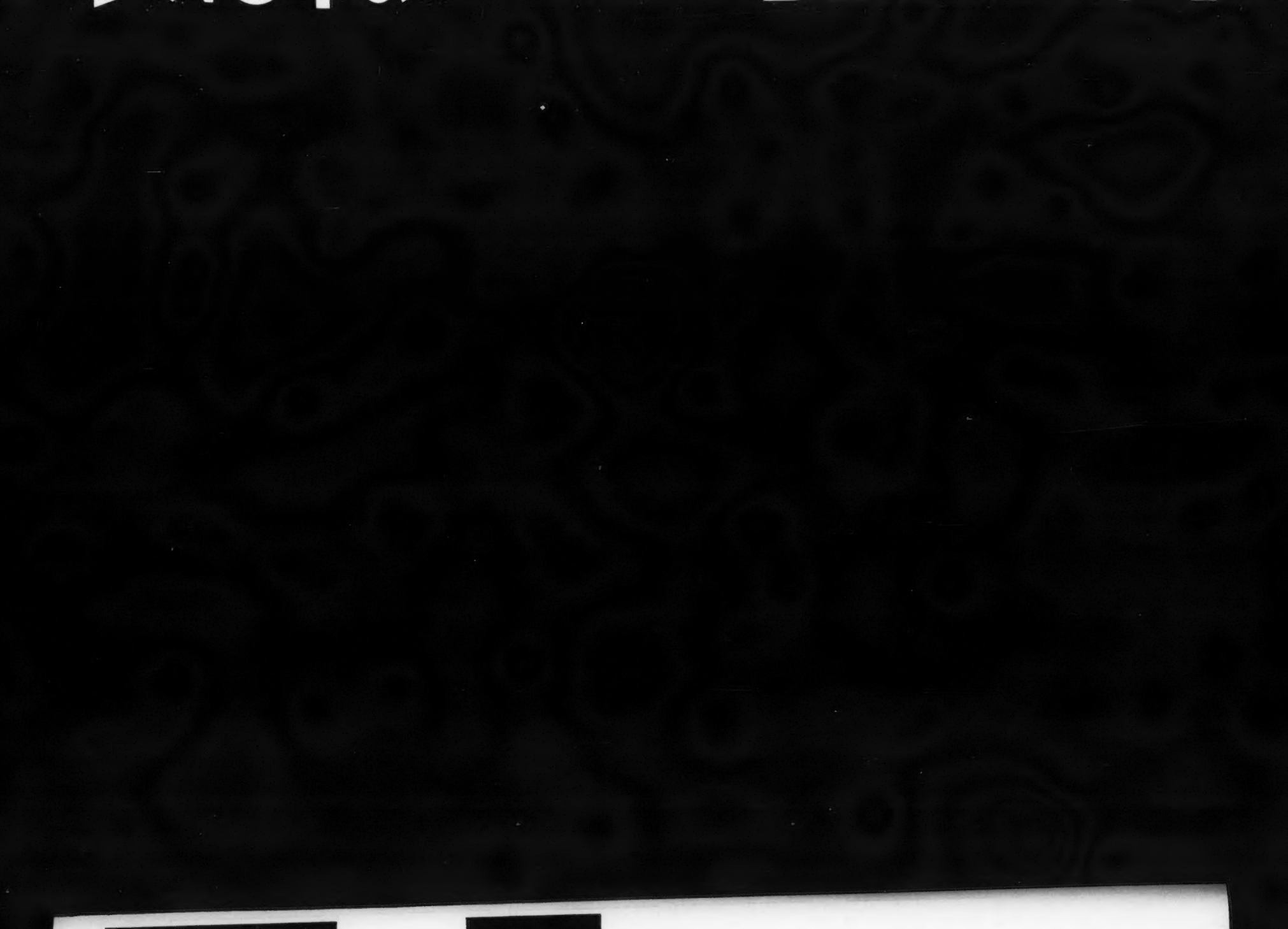
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